

HAWAII STATE DEPARTMENT OF EDUCATION
OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES
FACILITIES DEVELOPMENT BRANCH

Construction Process and Internal Controls Review

Design and Project Management; Procurement of Construction Services; Construction Management and Administration; and Project Closeout and Asset Inventory

JULY 2013

CONSTRUCTION PROCESS AND INTERNAL CONTROLS REVIEW
JULY 30, 2013

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Executive Summary

FDB PROJECT: OBJECTIVE, SCOPE, AND TIMING

At the request of the Hawaii State Department of Education Office (“DOE”), Deloitte & Touche LLP performed a current state assessment of selected DOE’s Facilities Development Branch (“FDB”) functional activities. The objective of the assessment was to evaluate FDB’s processes and controls related to specific construction and repair and maintenance activities against our understanding of leading industry practices, and to provide observations and recommendations for improvement to FDB management.

Phase I of the assessment, performed in fiscal year 2012, covered the following specific functional activities:

1. Project Prioritization;
2. Budgeting and Needs Forecasting;
3. Funding of Projects and Project Initiation; and
4. Procurement of Professional Services.

The results of the assessment of these activities were presented in a final report issued in April 2012.

The scope of this assessment, known as phase II, covered the following specific functional activities:

1. Design and Project Management;
2. Procurement of Construction Services;
3. Construction Management and Administration; and
4. Project Closeout and Asset Inventory.

The assessment focused on current FDB practices, which were evaluated considering specific internal control objectives and our understanding of leading industry practices. Our assessment was based on a review of current policies and procedures in place during fiscal year 2013; discussions with personnel regarding Department of Accounting and General Services (“DAGS”), Facilities Maintenance Branch (“FMB”), and FDB practices; and a sampling of projects in progress or completed during the current and previous fiscal years to review actual practices employed. The assessment also included an evaluation of certain processes and controls performed by FMB and DAGS given their responsibilities for small repair and maintenance on O’ahu (FMB), and for small repair and construction on neighbor islands (DAGS).

Our findings and recommendations are summarized in the following sections, and are presented for management’s consideration to improve current practices and operational efficiencies. Detailed discussions of each of our findings are presented in the Detailed Report – Observations: Findings and Recommendations section following the Executive Summary

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FDB PROJECT: BACKGROUND

The Hawaii State Department of Education's Facilities Development Branch was formed in 2005 when responsibility for DOE construction and construction-related activities was transferred by Act 51¹ from the Hawaii State Department of Accounting and General Services ("DAGS") to the DOE.

FDB operates in a complex and challenging environment. FDB is responsible for approximately 256 public schools statewide. The majority of DOE's facilities are more than 20 years old and require ongoing repairs and maintenance. In addition, new construction often involves work on suboptimal sites that pose topographic challenges, which may require environmental or other remediation, or which may involve cultural or historical considerations or constraints. The FDB organization is composed of three sections, the Planning Section, the Project Management Section ("PMS"), and the Construction Management Section ("CMS"). For staffing, FDB has 66 approved positions and 16 vacancies. FDB personnel are located in multiple office locations on O'ahu including the Kalanimoku Building and temporary facilities at Kalani High School.

Within DOE, FDB is responsible for all construction and construction-related activities including: capital improvement projects ("CIP"), large repair and maintenance projects ("R&M"), and architectural and engineering assistance (also called "consultant" or "professional services"). For projects at schools located on neighbor islands (comprising the districts of Hawai'i, Kaua'i, and Maui), a Service Level Agreement ("SLA")² between DAGS and DOE defines the support services DAGS Central Services provides for work order level repair and maintenance and that DAGS Public Works provides for large R&M and construction management for school facilities projects. DAGS has offices in Lihue, Kahului, Moloka'i, and Hilo. In addition, DAGS has a base yard and a presence on the Kona side of Hawai'i and a base yard in Honokaa.

FDB manages construction for most R&M and CIP projects on O'ahu; FDB hires third-party construction managers to manage remaining projects

¹ Session Laws of Hawaii 2004.

² Service Level Agreement between Department of Education and Department of Accounting and General Services dated July 1, 2005, amended October 1, 2006.

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FDB PROJECT: BACKGROUND

on O'ahu and certain projects on the neighbor islands.

Because of the age and heavy use of most of its facilities, DOE must also address small R&M projects on an ongoing basis. Small R&M are projects that are initiated by school user work order requests through the Maximo system. On O'ahu, the 228-person FMB responds to and addresses small R&M work orders, both emergency and trouble calls.³ On neighbor islands, DAGS Central Services performs the same function.

FDB's budget for fiscal year 2013 was approximately \$296 million. FDB performs approximately 200-250 projects per year, most of which are for R&M. Projects range in size from R&M costing less than \$1,000, such as repainting jobs, to the \$32 million Wailuku II (Puu Kukui) Elementary School new construction project.

Projects fall into categories based on scope, size, and complexity: mid-level R&M are projects typically valued at \$250,000 or less that may not require a consultant and construction plans. Personnel from the Building Inspection Planning Unit (BIPS) within FDB's Planning Section manage mid-level R&M. Large R&M are bond-funded construction projects which require consultant-developed design and construction documents, and involve program-level initiative projects such as electrical upgrades, hazardous material abatements, or whole school renovations. CIP projects also require consultant-developed design and construction documents and typically include such projects as new school buildings. Starting in fiscal year 2014, FDB will realign projects into categories or key performance indicators based on the concern the project addresses. The key performance indicators are facility condition, program support, capacity, and equity.

³ FMB addresses work orders valued up to \$10,000. If the work order is an emergency and costs more than \$10,000, FMB abates the issue and FDB reimburses FMB. There is no cost threshold for emergency work orders on neighbor islands.

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PROGRAM HIGHLIGHTS

FDB continues to demonstrate a solid foundation of processes and controls to develop, build, and maintain educational facilities for the State of Hawaii Department of Education. FDB does a good job managing a large volume of projects while addressing challenges related to district size and site geographical diversity and varied historical and cultural considerations. Based on the phase I and II assessments, and in comparison to industry practices, FDB does employ certain leading practices and possess characteristics that create an operating platform that is both stable at its core, but flexible enough to adapt to change. Following are some examples:

- YEARS OF EXPERIENCE

FDB has many long-tenured employees, most of whom have been managing design and construction of school facilities since prior to Act 51 and the shift from DAGS. The wealth of experience in the branch means that FDB rarely encounters project scenarios that collectively it has not seen before. Less experienced personnel can turn to more experienced colleagues for project and construction management assistance. As a whole, FDB personnel's strong knowledge of the construction marketplace across the state and familiarity with many of the consultants who apply to be on the pre-qualified list of consultants and general contractors who submit bids, allow them to anticipate consultant or general contractor strengths and weaknesses and changes in the bid environment. One caution is that as key employees retire, FDB may risk the loss of institutional knowledge. FDB management should take steps to help reduce this risk including updating and centralizing its policies and procedures as recommended in this report.

- FLEXIBILITY AND ADAPTABILITY TO CHANGE

FDB leadership has demonstrated a willingness to implement new processes to improve FDB project management approaches and project delivery efficiency. FDB has already seen positive results from changes implemented as a result of recommendations from phase I of this assessment, including a reduction in the number of contracts processed by bundling similar project scopes, changes to consultant procurement based on project size and complexity, and a reassignment of project coordinators based on geographic regions to deepen relationships with users. FDB's flexibility and receptiveness to feedback will continue to serve it well as it develops into a more mature project and construction management organization.

- PROCUREMENT OF CONSTRUCTION SERVICES

Implementation of the Hawaiian Electronic Procurement System ("HePS") has streamlined construction bidding and has made the bid

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PROGRAM HIGHLIGHTS

volume more manageable for FDB to process. Manpower devoted to bid openings and processing has been reduced as the process is handled electronically. HePS is one of the few information technology tools that FDB has relied on for one of its project management processes. As a result, HePS has modernized mechanisms for disseminating information for FDB – addendums and other notifications to bidders are all processed electronically through HePS. Still, FDB could improve the extent of the data it captures through HePS. For instance, including detailed information about project scope in the HePS data base will allow FDB to cultivate data to help establish budgets for future similar projects.

There are strong processes and controls for bidding through HePS that drive consistency in letting construction contracts. The Auxiliary Services Branch includes the HePS buyer who works with project coordinators from PMS and is responsible for advertising the bids and compiling and posting the appropriate bid documents.

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SUMMARY OF FINDINGS

Based on this assessment and in comparison to industry practices, FDB has opportunities to streamline and improve its design and construction management processes to improve efficiency and internal controls. Overall it appears that at times FDB may have challenges in finding an appropriate balance between timely design completion and quality of designs, and insufficient construction oversight may exacerbate design deficiencies and cause project delays. FDB could also improve balancing the demands of designing and constructing school facilities with serving the end user.⁴ FDB's systems for retention and organization of project documentation and data are outdated, and organized and comprehensive document retention appears to be of less priority than moving as many projects through the design process as possible. Inconsistency of project-delivery protocols and under-enforcement of agreed-upon metrics for project completion on neighbor islands compound many of these issues. Each of the findings summarized below are discussed further in the Detailed Report – Observations: Findings and Recommendations section.

The key findings resulting from the process and internal controls review are as follows:

- **POLICIES AND PROCEDURES**

FDB does not have updated, comprehensive, and consolidated policies and procedures to manage design and construction projects. As noted in phase I of this assessment, FDB relies on policies and procedures for design and construction that pre-date the transfer of responsibility for school facility maintenance and construction from DAGS to DOE. As a continuation of efforts to address this repeat finding, FDB should continue to move toward a comprehensive branch manual that can help streamline the project design and construction process and serves as an effective reference for on-boarding new employees. DOE should also implement a process to keep its policies and procedures current on an ongoing basis.

- **CAPITAL EFFICIENCY**

Inefficiencies in capital planning, construction bidding, and construction management limit FDB's ability to maximize use of its biennium budget to repair, maintain, and construct new school facilities throughout the state. Faced with limited resources, particularly on neighbor islands, FDB cannot consistently and proactively address maintenance issues, which can develop into costlier repairs or get overlooked in the capital planning process. Bid preferences and delays issuing notices to proceed reduce the value that FDB receives in the competitive bidding process. Insufficient project oversight leads to coordination issues during construction, which occasionally lead to costly

⁴ When used in this assessment, "users" or "end users" shall collectively refer to all school personnel including the principal, vice principal, and custodian.

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SUMMARY OF FINDINGS

consultant contract modifications and change orders. Delays in collecting project closeout documents and inconsistent cataloging of documents received impact building maintenance and may jeopardize asset warranties. Ineffectual liquidated damages clauses that FDB only occasionally enforce further reduce the value that FDB receives from its capital improvement program.

- **USER SATISFACTION**

FDB and DAGS can provide more consistent updates to end users pertaining to project backlog, status of prioritizations and work order repair and maintenance projects, and ongoing campus construction activities. FDB should continue and expand training efforts for principals, custodians, and Administrative Services Assistants (ASA) and empower ASAs to fulfill their roles as conduits between FDB and the campuses. FDB should develop a robust post-project evaluation process that includes lessons-learned, consultant and contractor evaluations, and feedback from users and ASAs.

- **INEQUITY OF WSF FUND USAGE FOR SCHOOLS ON O'AHU AND NEIGHBOR ISLAND SCHOOLS**

Through interviews performed, principals for neighbor island schools reported facing the choice between using Weighted Student Formula (WSF) funding designed for school programs to address facility needs and waiting for FDB or DAGS to address a facility need. On O'ahu, principals did not report waiting so long for FDB to address a repair that they used WSF for facilities instead. FDB should improve responsiveness and reduce time to complete small repairs and other facilities projects on the neighbor islands to reduce instances where principals shift WSF funding away from school programs.

- **SERVICE LEVEL AGREEMENT (SLA) WITH DAGS**

Certain performance objectives related to work order processing time established by the SLA with DAGS no longer appear to meet the needs of users on the neighbor islands or cannot be measured with the current system in place to track work orders on the neighbor islands. Additionally, insufficient updates to the SLA have led to outdated references and omission of protocols related to FDB processes and requirements around such tools as FACTRAK and HePS. FDB should consider realigning responsibilities on neighbor islands so operations are comparable with those on O'ahu.

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SUMMARY LIST OF FINDINGS
GENERAL FINDINGS AND RECOMMENDATIONS
Finding 1: FDB has outdated and decentralized policies governing R&M and CIP.
Finding 2: FDB does not sufficiently leverage technology to streamline the project and construction management process.
Finding 3: Inconsistency in document retention may lead to compliance violations.
Finding 4: Locating FDB resources in multiple facilities constrains inter-section communication and knowledge sharing.
CATEGORY 1: DESIGN AND PROJECT MANAGEMENT
Finding 5: Insufficient master planning leads to inefficient use of DOE resources.
Finding 6: Inconsistency in soliciting user comments during design development leads to project complications during construction.
Finding 7: FDB does not consistently review consultant designs and evaluate consultant performance.
Finding 8: Consultant contract modification processing causes project delays.
CATEGORY 2: PROCURMENT OF CONSTRUCTION SERVICES
No findings.

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SUMMARY LIST OF FINDINGS
CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION
Finding 9: Delays in issuing notices to proceed (NTP) lead to increases in construction costs.
Finding 10: DAGS may be insufficiently staffed to proactively address work orders on neighbor islands.
Finding 11: DAGS may be insufficiently staffed to manage quality for neighbor island R&M projects and CIP.
Finding 12: Delays in DAGS and FDB addressing school-requested projects has led neighbor island schools to use their general education funds (Weighted Student Formula funding) to address selected facilities projects.
Finding 13: FDB does not adequately work through Administrative Services Assistants (ASAs) to keep school stakeholders apprised of project status.
Finding 14: FDB does not incorporate and consistently enforce effective liquidated damages clauses for construction contracts.
Finding 15: Project contingency may be insufficiently developed to address common unforeseen conditions.
CATEGORY 4: PROJECT CLOSEOUT AND ASSET INVENTORY
Finding 16: The standards set by the Service Level Agreement with DAGS do not appear to adequately meet the needs of neighbor island schools.
Finding 17: Delays in construction project closeout increase FDB risk.

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Detailed Report – Observations: Findings and Recommendations

GENERAL FINDINGS AND RECOMMENDATIONS

Finding 1: FDB has outdated and decentralized policies governing R&M and CIP. (Repeat Finding)

CONDITION

As reported in our phase I report issued in April 2012, FDB has not regularly updated its policies and procedures nor has it compiled its policies and procedures in a comprehensive library. FDB primarily relies on the Interim General Conditions issued by the public works section of the Department of Accounting and General Services (“DAGS”), last updated in 1999, for detailed construction contract management process guidance. FDB continues to rely on the knowledge and experience of long-tenured project coordinators, construction managers, unit heads, and section heads who have managed numerous projects across disciplines since before FDB transitioned from DAGS. FDB employees are well versed in the steps necessary to bid, manage, and close projects, but a current and comprehensive set of policies and procedures that reflects this knowledge does not exist. Because FDB draws on policies and procedures contained in disparate and sometimes outdated documents, it relies on a disaggregated set of documents and checklists as policies and procedures, including:

- Construction Contract Administration – July 1980
- Policies and Procedures Governing Design Consultant Contracts – November 1981
- Revisions to the “Policies and Procedures Governing Design Consultant Contracts – November 1981” – March 2004
- Policies and Procedures Related to Closing of Construction Contracts – February 1984
- Interim General Conditions 1999 Edition for Construction
- Amendment to Interim General Conditions 1999 Edition (No date given)
- Repair and Maintenance Project Guidelines – June 1999
- Policies and Procedures Related to Changes Initiated During Construction – May 2000
- Design Consultant Criteria Manual (DCCM) – July 2003
- FDB Bid Analysis and Recommendations – Construction Contract Checklist – September 2009
- Documents Required for Closing of Subject Contract
- Hawaii Revised Statutes §103D-302 Competitive Sealed Bidding

FDB distributes policies and procedures in hard copy and does not store documents electronically to facilitate employee access to the latest updated

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GENERAL FINDINGS AND RECOMMENDATIONS	
Finding 1: FDB has outdated and decentralized policies governing R&M and CIP. (Repeat Finding)	
documents.	
CAUSE	
FDB does not have a process in place to formally update policies and procedures to match current department practices and standards. FDB has not prioritized or allocated resources to the development and maintenance of a comprehensive set of policies and procedures and thus relies on an amalgamation of procedures derived over the course of the group's development and transition from a DAGS to a DOE branch. Dissemination of updates to policies and procedures is inefficient as FDB does not store policies and procedures electronically in a centralized location.	
EFFECT	
Lack of current and formalized policies and procedures could expose DOE to risk if project coordinators and construction managers do not perform or document key project activities in a consistent fashion. Out-of-date policies and procedures do not sufficiently address new regulations (e.g. ADA requirements) and changes in design and construction requirements due to technological advances or other changes. Additionally, outdated policies and procedures do not appropriately reflect current organizational structure and practice on neighbor islands.	
Because policies and procedures are contained in a variety of documents in a variety of locations, it is more difficult for new FDB employees to determine the steps to take and documents to prepare and retain in order to work through design management, construction bidding, construction management, and project closeout processes. Project coordinators indicated that because FDB does not update policies and procedures on a comprehensive basis, they spend additional time during contract negotiation with consultants reviewing and highlighting revisions to portions of outdated policy included in the DCCM. In certain instances, project coordinators have unknowingly relied on outdated policies.	
CRITERIA	
Leading practice for organizations that regularly perform capital improvement or repair and maintenance projects is to assemble and follow policies and procedures that guide the planning, design, and construction process, and ensure compliance with relevant regulations and proper management practices. Policies and procedures should be readily accessible, and regularly reviewed and updated in a consolidated fashion to adapt to changes in technology, laws, regulations, and department standards. FDB should specifically assign responsibility for regularly reviewing and updating policies and procedures.	
RECOMMENDATION	
FDB should update and consolidate its policies and procedures. A process should be put in place to maintain, review, and update these documents going forward to reflect process and regulatory changes. Future updates should entail the release of comprehensive policies and procedures, including updates and additions, labeled with version and date to avoid confusion, as opposed to discrete addenda meant to augment or supersede	

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GENERAL FINDINGS AND RECOMMENDATIONS

Finding 1: FDB has outdated and decentralized policies governing R&M and CIP. (Repeat Finding)

current policy. FDB should store the latest version of policies and procedures on SharePoint so employees can easily access updated documents. In response to a similar comment in phase I of this assessment, FDB has started updating the Interim General Conditions and DCCM. FDB should assign responsibility to regularly review and update policies and procedures and monitor performance of these responsibilities.

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GENERAL FINDINGS AND RECOMMENDATIONS

**Finding 2: FDB does not sufficiently leverage technology to streamline the project and construction management process.
(Repeat Finding)**

CONDITION

As noted in phase I of this assessment, FDB relies primarily on the proprietary FACTRAK system for tracking project design and construction costs and status. FDB does not use FACTRAK to its fullest capability in that it does not input or update project cost, project date, or personnel assignment data consistently. In reviewing the Construction Management Section Head Status Report, which includes over 6,000 projects since 1997, with the majority of those since 2005, we noted the following related to the completeness of the tracked data:

- Total Project Population: 6,401
- Number of Projects with Area Engineer Name Populated: 1,710 (27%)
- Number of Projects with Inspector Name Populated: 2,308 (32%)
- Number of Projects with Contractor Name Populated: 2,303 (36%)
- Number of Projects with Notice-to-Proceed (NTP) Date Populated: 1,947 (30%)
- Number of Projects with Estimated Job Completion Date Populated: 1,028 (16%)
- Number of Projects with Contract Amount Populated: 2,009 (31%)
- Number of Projects with No Identifying Information: 2,392 (37%)
- Number of Projects with All Attributes Above Populated: 524 (8%)

In a subset of 24 completed projects from a sample of 37 projects for which FACTRAK input data was examined, it was noted that CMS personnel (or DAGS personnel for most projects on neighbor islands) input key project milestone dates into FACTRAK 76% of the time.⁵ PMS personnel enter project management milestones only 34% of the time. In isolated instances, FACTRAK includes project documentation such as contracts

⁵ Results by island:

- Hawai'i (four completed projects) – 77%
- Kaua'i (three completed projects) – 100%
- Maui (three completed projects) – 69%
- O'ahu (14 completed projects) – 98%

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GENERAL FINDINGS AND RECOMMENDATIONS

Finding 2: FDB does not sufficiently leverage technology to streamline the project and construction management process. (Repeat Finding)

(38%), payments or monthly estimate (14%), project correspondence (30%), fee proposals (3%), and meeting minutes (3%).

Assistant School Administrators (ASAs) and other interested parties representing the schools rely upon data within FACTRAK to communicate project status to principals and other members of the school community. Many of these parties have access only to the publicly available version of FACTRAK that has less, and even more outdated project information, than the FDB-internal FACTRAK version.

The Project Control Section within the Auxiliary Services Group tracks data related to contract awards, modifications, and change orders using SharePoint. The dates associated with milestones in contract, modification, or change order processing are generally more comprehensive in SharePoint than the data in FACTRAK. However, the database is more limited, as it dates back only to 2009, and currently the project data in SharePoint is not tied to projects in FACTRAK. Thus, to capture the same information in FACTRAK Project Controls or FDB personnel need to enter it in FACTRAK as well.

Inconsistent and incomplete data collection as well as duplicate data collection via separate systems makes it more difficult for FDB to generate program-level reports. For example, rather than being able to simply use a database and select project parameters to produce a report of average duration by activity for project delivery based on construction cost, FDB commissioned an internal study to analyze project information and compile the report.

CAUSE

Project coordinators, construction managers, and inspectors deprioritize maintaining and updating data in FACTRAK and uploading project documents as they focus instead on the day-to-day requirements for managing multiple concurrent projects. In addition, there are no enforcement measures in place to require personnel to enter this data into FACTRAK. FDB tracks different data sets related to the same projects using different software platforms which are not integrated.

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GENERAL FINDINGS AND RECOMMENDATIONS	
Finding 2: FDB does not sufficiently leverage technology to streamline the project and construction management process. (Repeat Finding)	
EFFECT	
<p>Incomplete data diminishes the effectiveness of FACTRAK as a management analysis and reporting tool. ASAs or other interested parties are not able to reference accurate, up-to-date, or reliable information pertaining to projects at their schools, including, in some cases, which project coordinator is assigned to the project. Auxiliary Service Branch personnel are not always able to find updated budgets to verify that funding is available when processing contracts.</p> <p>Estimated project costs that are not updated in FACTRAK increase the risk that projects that are in the backlog for an extended period before being funded, may be funded based on outdated estimates that do not account for inflation or other market changes.</p> <p>The Project Control Section and FDB experience inefficiencies when tracking project data across different platforms without the ability to automatically synchronize the data. Multiple entries of the same data make FDB susceptible to inaccuracies or inconsistencies.</p>	
CRITERIA	
<p>It is a leading practice for entities with capital development programs as large as FDB's to track their portfolio of projects using software or other systems that allow them to aggregate and manipulate project data, automate approval processes, and generate comprehensive and tailored project or portfolio reports. Program owners typically track and trend key performance indicators such as performance by project type and project manager, processing through contract and change order approval milestones, and project acceptance and closeout.</p>	

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GENERAL FINDINGS AND RECOMMENDATIONS

Finding 2: FDB does not sufficiently leverage technology to streamline the project and construction management process. (Repeat Finding)

RECOMMENDATION

FDB should consider investment in a project management software system that would allow FDB to centrally track all projects from identification through construction completion, with management and executive level reporting customized to user needs. FDB should consider functionality enhancements such as:

- The requirement that certain project information be input before projects can move forward;
- The ability to identify, sort, and filter projects by various attributes (e.g. scope of work);
- Automation of approval stage gates;
- Automation of workflows and approval processes;
- Links to supporting documentation;
- Reporting of key project metrics;
- The ability to customize reporting by project or program.

FDB should also investigate the viability of enhancing the existing FACTRAK system to provide additional functionality. Should procurement of a new system not be imminent, at a minimum FDB should enforce the input of project data by project coordinators, construction managers, DAGS personnel, and inspectors into its existing system. FDB should consider evaluating frequency and accuracy of data input into FACTRAK by employee and incorporating the results into annual employee reviews. A central tracking system, including enhanced functionality to upload key project documentation, would facilitate remote project oversight and document processing for neighbor island projects.

With the departure of a major FACTRAK user from the CMS, FDB should identify resources who will continue efforts to monitor the input of key project data for both project and construction management. FDB should consider leveraging clerks and secretaries for FACTRAK input.

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GENERAL FINDINGS AND RECOMMENDATIONS

Finding 3: Inconsistency in document retention may lead to compliance violations. (Repeat Finding)

CONDITION

As part of this assessment, we reviewed project documents for 36 projects for retention and compliance with state laws and FDB policies and procedures.⁶ The sample included projects located on O’ahu and the neighbor islands. Of the projects, 24 were completed construction projects and the others were still under construction or in design. Following is a summary of specific compliance-related documents that were not included in the sampled project folders:

- 1 out of 36 project folders was missing evidence of a bid analysis, including the invitation for bid and award decision (Competitive Sealed Bidding – Hawaii Public Procurement Code, §103-302).
- 2 out of 34 project folders were missing bonding documentation in accordance with the Hawaiian Public Procurement Code, §103D-305.⁷
- 29 of 33 project folders were missing a construction schedule as required by the Interim General Conditions 1999 Edition for Construction Article 7.22.⁸
- 4 of 34 project folders were missing bid security documentation as required by Hawaiian Public Procurement Code, §103D-323.⁹
- 7 of 34 project folders were missing documentation of contractor worker’s compensation coverage in accordance with the Interim General Conditions 1999 Edition for Construction, Article 7.3.¹⁰ Five of those cases (out of 13 projects) pertained to projects at schools located on the neighbor islands.
- 6 of 34 project folders were missing documentation of general liability and auto liability insurance coverage in accordance with the Interim General Conditions 1999 Edition for Construction, Article 7.3.¹¹ Four of those cases (out of 13 projects) pertained to projects at schools located on the neighbor islands.

⁶ See Appendix 3 for projects reviewed.

⁷ Two additional projects had yet to reach a point where bonding was necessary.

⁸ Three projects either did not require a schedule or had yet to reach the construction phase.

⁹ FDB had not yet issued two projects for bid.

¹⁰ General contractor selection had yet to take place for two projects.

¹¹ General contractor selection had yet to take place for two projects.

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GENERAL FINDINGS AND RECOMMENDATIONS

Finding 3: Inconsistency in document retention may lead to compliance violations. (Repeat Finding)

- 8 of 34 project folders did not include appropriate tax clearance documentation as required by Hawaiian Public Procurement Code, §103D-326.¹² Seven of those cases (out of 13 projects) pertained to projects at schools located on the neighbor islands.
- 9 of 24 project folders did not include required closeout documents such as as-built drawings, maintenance service contracts, and operating and maintenance manuals in accordance with the Interim General Conditions 1999 Edition for Construction, Article 7.31.¹³ All nine of those cases (out of 13 projects) pertained to projects at schools located on the neighbor islands.
- 9 of 24 project folders did not include a certification letter from the consultant stating that no EPA banned materials were specified for the project or in the construction documents in accordance with Article 2.5.15.1 of the Design Consultant Criteria Manual.¹⁴ All nine of those cases (out of 13 projects) pertained to projects at schools located on the neighbor islands.
- 3 of 24 project folders did not include a copy of the Project Acceptance Notice in accordance with the Interim General Conditions 1999 Edition for Construction, Article 7.32.¹⁵ All three of those cases (out of 13 projects) pertained to projects at schools located on the neighbor islands.
- 10 of 34 project folders were not compliant with requirements of the Interim General Conditions 1999 Edition, Article 3.4.1 for FDB to award contracts within 60 days after the opening of proposals.¹⁶ Five of those instances (out of 13 projects) pertained to projects at schools located on the neighbor islands.

Based on the sampled project folders and the examples summarized above, construction document retention for projects managed by BIPS or DAGS on the neighbor islands was less complete and less organized than CMS-managed projects on O'ahu. In addition, the sample included neighbor island projects managed by third-party construction managers. Third-party construction managers maintained organized and labeled construction documents similar to the standards set by CMS. However, based on the sample, third-party construction managers are not more diligent than DAGS about maintaining all required documentation.

¹² General contractor selection had yet to take place for two projects.

¹³ Count of project folders represents complete projects.

¹⁴ Count of project folders represents complete projects.

¹⁵ Count of project folders represents complete projects.

¹⁶ FDB had not yet issued two projects for bid.

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GENERAL FINDINGS AND RECOMMENDATIONS
Finding 3: Inconsistency in document retention may lead to compliance violations. (Repeat Finding)
FDB has noted that in many cases, it retains appropriate project documents even if the documents are not all kept in project folders. One such example is the Kilauea Elementary School Cafeteria project. FDB received only one bid, which it accepted. FDB completed the necessary paper work for the Office of Business Services to justify sole sourcing the project, but did not include the paper work in the project folder.
CAUSE
Except for the in-process development of a Project Document Checklist, document retention standards are not clearly and succinctly defined in a set of comprehensive policies and procedures. In addition, FACTRAK is not effectively used as a central repository for storing and organizing these documents. Neighbor island construction managers do not appear to be as attentive to gathering and organizing the requisite construction documentation for their projects, in part due to insufficiently defined requirements in the SLA for document retention.
EFFECT
Incomplete project documentation exposes FDB to compliance, financial, and project performance risk, particularly for any disputes that arise.
CRITERIA
Leading practice organizations create and enforce policies and procedures regarding the preparation and maintenance of key project documents. Retaining evidence of project documentation is required in order to meet compliance standards such as holding pre-bid conferences or appropriate containment of hazardous materials, and to protect FDB in the event of disputes.
RECOMMENDATION
As it has with the in-process development of the Project Document Checklist for professional services management, FDB should continue to develop checklists of design and construction documents which are required to be retained and tie the checklists closely to statutory and branch requirements. Within the SLA, FDB should specifically identify documents to be retained and whether DAGS should retain in Public Works offices or whether DAGS should transmit documents to FDB. In the longer term, as part of its goal to further integrate and improve the use of technology for design and construction management, FDB should transition to electronic document retention and embed requirements for users to upload key project documents for management review before project milestones can be achieved.

CONSTRUCTION PROCESS AND INTERNAL CONTROLS REVIEW
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GENERAL FINDINGS AND RECOMMENDATIONS	
Finding 4: Locating FDB resources in multiple facilities constrains inter-section communication and knowledge sharing.	
CONDITION	
<p>The PMS and CMS occupy multiple floors within the Kalanimoku building in Honolulu, while the FDB Planning Section is stationed in temporary facilities at Kalani High School, six miles away. The Auxiliary Services Branch is also split up over multiple locations, with the Project Control Section located in Kalanimoku and the Hawaii Electronic Procurement (HePS) buyer and Auxiliary Services Administrator located at a site several blocks away.</p> <p>Through inquiry, both in phase I and this phase of the assessment, FDB personnel noted difficulties teaming internally to share knowledge. For example, Planning Section personnel compile cost estimates with limited input from others in the organization with greater estimating expertise, leading to inaccurate cost estimates. As they move into project procurement stages, PMS personnel often struggle to decipher scopes written or verified by Planning Section personnel which delays procurement or creates risk that projects proceed with inappropriate scopes.</p>	
CAUSE	
<p>FDB currently aligns its sections in multiple facilities. FDB workload makes it difficult for FDB personnel to stay ahead of projects and anticipate the need to set up appointments with colleagues across sections to clarify scope or seek guidance in estimating.</p>	
EFFECT	
<p>Locating personnel from different sections in different facilities creates obstacles for personnel to share knowledge and likely contributes to project delays.</p>	
CRITERIA	
<p>Organizations make decisions to collocate resources to drive efficiency, improve communication, and develop a unified culture.¹⁷ For organizations such as FDB, where R&M and CIP processes follow a standard trajectory through identification, planning, funding, procurement, design management, bidding, construction management, and closeout, and require interaction from personnel across all three FDB sections plus the Project Control Section, communication is critical to facilitate appropriate knowledge share.</p>	

¹⁷ Franklin Becker and Arthur Pearce, *A Balanced Real Estate and Human Resource Model for Assessing the Financial Implications of Large Scale Real Estate Decisions*, http://iwsp.human.cornell.edu/file_uploads/collocation1_1238245431.pdf (January 2003).

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GENERAL FINDINGS AND RECOMMENDATIONS

Finding 4: Locating FDB resources in multiple facilities constrains inter-section communication and knowledge sharing.

RECOMMENDATION

FDB should consider collocating resources to improve inter-section communication and coordination. In considering this alignment, FDB should perform analysis that accounts for any anticipated growth in the branch, changes in worker productivity, and strategies for alternative uses of real estate to adjust for expansion or contraction of real estate needs to reach a long-term solution regarding collocating resources.

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT
Finding 5: Insufficient master planning leads to inefficient use of DOE resources.
CONDITION
<p>FDB project prioritizations do not always address school needs on a timely basis and in a logical sequence, and project designs do not always account for maintenance needs and other limitations once projects are completed. Following are specific examples from the Island of Hawai'i where insufficient master planning led to suboptimal results.</p> <ul style="list-style-type: none"> • Honaunau Elementary School – FDB completed phase I of an electrical upgrade project in October 2011 to bring additional power capacity to the school. However, phase I did not include connections of branch circuits off the new capacity to make the additional power to the school usable. The school custodian noted that the circuits powering the school's computer lab continue to trip. Design consultant selection for phase II of the electrical upgrade was initiated in September 2012, meaning that the work for the phase I electrical upgrade is likely to sit unusable for two years beyond its completion. • Kea'au Middle School – FDB performed a whole school renovation project that included painting the canopy of a covered walkway. Upon inspection of the canopy, we noted rusted holes in the metal canopy roof that were painted over rather than repaired. The whole school renovation project did not include funding for such repairs in advance of cosmetic improvement. FDB's investment in repainting the canopy will be diminished as one would expect the hole in the canopy to require further remediation. <p>As noted in phase I of this assessment, FDB fixed asset tracking for the majority of its schools does not include vintage information at an asset level that would allow FDB to prepare asset replacement schedules for forecasting and long-term budgeting purposes.</p>
CAUSE
<p>School representatives participate in project prioritizations for projects at their schools. Principals sometimes prioritize projects without consideration of other repairs that need to take place before a given project proceeds. BIPS inspectors, DAGS engineers, and ASAs may not always consider and make the principals aware of the small maintenance backlog when recommending priorities for each school. FDB's fixed asset tracking is insufficient to rely upon to make prioritization decisions.</p>
EFFECT
<p>By letting projects sit incomplete for extended periods of time, by prioritizing improvement over repairs, and by approving designs that do not consider maintenance and other limitations and that require accessories not included in project funding, FDB may not fully capitalize on its investment in improving its facilities. Scoping projects and placing them on a backlog for a prolonged period may invalidate some of the original scoping as aspects of the campus that impact the scope of the project may have changed by the time FDB is ready to proceed with the project. As</p>

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT	
Finding 5: Insufficient master planning leads to inefficient use of DOE resources.	
described in the Phase I assessment report, FDB does not adequately track its assets across its campuses to aid in sufficiently forecasting when major repairs will be necessary. As a result, FDB’s ability to forecast its long-range needs is hindered by inadequate data regarding the repair and replacement requirements of many of its current facilities.	
CRITERIA	
Serial constructors rely on strong master planning that includes proper project sequencing to maximize investment in facility maintenance and development.	
RECOMMENDATION	
<p>In the short term, FDB should take steps to further align small work order level repairs with larger R&M and CIP. As noted in phase I of this assessment, FDB should improve its asset tracking system to better inform its short- and long-term repair and maintenance needs.¹⁸ On the neighbor islands, where addressing the large backlog of work orders challenges the limited staff of DAGS trades people, FDB should pay particular attention and work with local ASAs to review and properly sequence the R&M backlog before prioritizing larger R&M and CIP.¹⁹ As part of its project closeout procedures, FDB should incorporate requirements to compile a “lessons learned” memo that becomes part of a data base. Though FDB executes numerous projects with similar scopes, compiling lessons learned on projects will help FDB personnel identify processes within FDB that can be improved and allow FDB personnel to learn from their colleagues’ experiences.</p> <p>In the longer term, FDB should continue to work with the legislature to expand programs such as Zones of School Innovation, to target underachieving schools, schools in impoverished areas, or schools with a disproportionate amount of deferred maintenance for focused and comprehensive facility improvement projects to fully and systematically address small and large R&M backlogs.</p>	

¹⁸ FDB issued an RFP and selected a consultant to provide assistance with developing a comprehensive facilities master plan and a data-driven asset management plan to direct R&M. FDB expects the project to be completed in late 2013.

¹⁹ See Finding 10 for further discussion of impacts of DAGS’ staffing levels.

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT
Finding 6: Inconsistency in soliciting user comments during design development leads to project complications during construction.
CONDITION
FDB project coordinators do not consistently or sufficiently solicit end user comments during the design development. Through inquiry with 13 ASAs and principals, we noted that nine indicated that they had no opportunity for input during the design phase, had limited technical skills to provide any meaningful review, and/or were given unrealistic timelines in which to comment. Some ASAs and principals with experience working on CIP indicated that they had the opportunity to comment during design development. But for most R&M projects, project coordinators provide a set of 60-80% complete drawings to principals who, despite having limited technical design or construction skills and a multitude of other responsibilities related to running schools, are asked to provide comments within 10 days to two weeks without further guidance from the architect or project coordinator. Similarly, project coordinators ask ASAs, who also have varying degrees of experience reading blueprints, for comments on design drawings. The feedback process is poorly defined as principals and ASAs report receiving little guidance regarding what to review, how to approach review, and in what format to provide input. One project coordinator estimated that users provide feedback on designs only 20% of the time.
CAUSE
Project coordinators and architects do not typically meet with ASAs, principals, and other school users to review plans, solicit feedback, and address questions, particularly for R&M and particularly when either the architect or project coordinator is located on an island other than where the project will take place. The feedback process is poorly defined making it difficult for users to review and to make meaningful comments when there is no regular interaction with the architect and/or project coordinator. ASAs may not have adequate training to review and interpret design documents and to help principals and other users visualize the project during design review. See Finding 13 for additional observations regarding the role of ASAs.
EFFECT
Asking users to review and comment on design documents when most users do not have the technical skills or time in their schedules to provide such review may increase post-contract documents, lead to change orders, and delay projects. ²⁰ Users who are unable to visualize projects based on design documents are more likely to request changes once construction begins and they can see aspects of the project that may not conform to

²⁰ Post-contract documents are design drawings or documents issued after the bid has been awarded.

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT	
Finding 6: Inconsistency in soliciting user comments during design development leads to project complications during construction.	
their expectations. Changes during construction may lead to delays and additional project costs. In addition, customer satisfaction diminishes if users feel that their input is not considered.	
CRITERIA	
Thorough design document review, including solicitation and incorporation of end user input into project design during design development, is a critical ingredient of an on-schedule and on-budget construction project that meets user needs.	
RECOMMENDATION	
FDB should strive to minimize user-generated change orders during construction and improve user satisfaction with projects by proactively soliciting design comments during the design development. Following are some suggestions that may enhance end users' abilities to make meaningful contributions to design review.	
<ul style="list-style-type: none">• Interactively present design plans to end users in order to solicit feedback and gain buy-in to the project.• Create checklists with specific design attributes for users to review to facilitate the review process.• Provide regular training to ASAs related to basic construction means and methods, blueprint review, and interpretation of specifications.• Include requirements that facilitate user review of design documents as part of comprehensive department policies and procedures. Requirements could include a minimum comment period of two weeks, interactive presentations for projects anticipated above a certain value threshold, and meetings between ASAs and end users to review design documents for all other projects.	

CONSTRUCTION PROCESS AND INTERNAL CONTROLS REVIEW
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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT

Finding 7: FDB does not consistently review consultant designs and evaluate consultant performance.

CONDITION

Most FDB project coordinators manage multiple projects at any time, usually with different consultants, at different schools, and with different scopes. While project coordinators are trained as either engineers or architects, and thus have the technical skills necessary to review and comment on consultant designs, project coordinators focus on project design management, coordination, and other administrative tasks. Typical tasks that project coordinators perform include the following:

- Schedule development and coordination
- Consultant fee negotiation
- Contract development
- Planning and securing appropriate funding
- Document compilation including FACTRAK updating
- User coordination and feedback solicitation
- Contract modification negotiation
- Management of post-contract documents during construction
- Project closeout

Given the other responsibilities pertaining to managing multiple projects, it is difficult for project coordinators to perform adequate quality control reviews on consultant design drawings and documents.

Project coordinators provide design documents to other DOE and FDB groups for review and comments, including FMB, CMS and the Network School Support Branch (NSSB). However, like project coordinators, members from these groups also have limited availability to review design documents so FDB occasionally processes consultant designs without adequate review. Also, as noted in phase I of this assessment, pressure to complete designs ahead of fund lapsing deadlines reduces the amount time available for technical review. Inadequate design review as well as insufficient coordination and supervision during construction can lead to construction complications.

In addition to the above, project coordinators and construction managers do not consistently prepare consultant evaluations upon project completion. In a sample of 24 project folders for completed projects, only one contained a consultant evaluation. Because FDB does not

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT	
Finding 7: FDB does not consistently review consultant designs and evaluate consultant performance.	
consistently include consultant evaluations in its project folders, it is difficult to ascertain whether design errors that manifest themselves during construction fall within the design standards for the profession and could have been mitigated with more coordination during construction, or whether certain oversights warrant making an errors and omissions claim against the consultant.	
CAUSE	
FDB does not have a quality control section devoted to reviewing consultant designs and proactively addressing changes before they impact construction cost and schedule. Faced with a limited amount of time, project coordinators prioritize project management over design review on their projects. FDB does not include requirements for project coordinators and construction managers to evaluate consultants and general contractors as part of the project closeout process.	
EFFECT	
Insufficient design review prior to bidding can lead to incomplete, inaccurate, or illogical designs that do not reflect field conditions or incorporate user requests. Such designs frequently lead to change orders during project construction. Scope changes during construction tend to be more costly to address than if the scope had been included as part of the bid documents because general contractors do not price change orders in a competitive bid scenario. Additionally, change orders that lead to project delays can lead to claims from any third-party consultants for extended overhead related to additional project period of performance.	
Based on a detailed review of project documents for a sample of projects, 20 projects with construction change orders were identified. It was noted that those 20 projects yielded 48 change orders totaling \$3.2 million (14% of original contract amount) that could be classified as design oversights resulting in post-contract documents (PCDs).	
FDB has many long-tenured professionals who have worked with and are familiar with the past performance of consultants on the professional services screened list. However, performing consultant evaluations can help FDB better assess the current capabilities of consultants and account for performance variations of different consultant personnel or due to changes in the structure of the consultant's organization.	
CRITERIA	
Owners invest time in thorough design document review prior to bidding or general contractor procurement to try to reduce the number of costly and delay-causing changes during construction. Evaluation of consultant and general contractor performance helps construction owners make prudent selections on future construction projects.	

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT

Finding 7: FDB does not consistently review consultant designs and evaluate consultant performance.

RECOMMENDATION

FDB should consider leveraging the engineering and architecture backgrounds of its team members to establish a quality assurance task force to review consultant designs for such attributes as responsiveness to basis of design (addressing relevant codes, meeting specified schedule and budget, and performing in the proposed period of construction), constructability, meeting technical standards and requirements, and incorporating user and other party review comments.²¹ Additionally, FDB should continue to require consultants to perform on-site investigations during scoping to facilitate adequate assessment of project scope. FDB should schedule consultant scope meetings and on-site walkthroughs with the project coordinator, consultant, ASAs, DAGS (on Hawai'i and Maui), and users so that FDB and DOE representatives familiar with the scope of the project are available and can address any consultant questions.

Change orders are inevitable and FDB is especially susceptible to change orders due to challenging sites and the prevalence of unforeseen conditions. As FDB encounters certain typical unforeseen conditions such as geological conditions and asbestos remediation, it should consider establishing unit costs for work related to these commonly encountered unforeseen conditions to include in construction contracts or as part of the ongoing update to the general conditions for contracts.

As part of the ongoing development of a project document checklist of required documents for project closeout, FDB should consider requiring consultant evaluations from the project coordinator, construction manager, and any appropriate school user such as the ASA.

²¹ FDB management noted that it is in the process of establishing a design evaluation team. Furthermore, FDB will distinguish high-profile/high-value or complex projects from commonplace projects and apply a more rigorous consultant qualification and selection process for those projects.

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT	
Finding 8: Consultant contract modification processing causes project delays.	
CONDITION	
<p>Consultant contract modifications typically arise due to unforeseen field conditions that present themselves during the construction phase of projects. According to PMS personnel, when an issue discovered in the field necessitates a scope change or redesign, work to address the redesign or changed scope is placed on hold until FDB processes a contract modification for the consultant. Unlike a general contractor change order that can be paid out of contingency funds, a consultant modification functions as a new or additional contract and must be processed through superintendent approval with the procurement of additional funding.²²</p> <p>FDB typically approves contract modifications in 30-60 days. Of 572 contract modifications for which both the project manager log in date and encumbrance receipt date were available, the following processing times were noted:</p>	

²² At FDB's discretion, when available, construction contingency can also be used to fund contract modifications. Additionally, some consultant contracts contain reimbursables that can be used via an allowance transfer to address unforeseen design conditions.

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT		
Finding 8: Consultant contract modification processing causes project delays.		
Contract Modification Processing		
Process Time	Number of Modifications	Percentage of Modifications
0-10 days	6	1%
11-20 days	50	9%
21-30 days	131	23%
31-60 days	283	49%
61-90 days	77	13%
91-120 days	14	2%
121-150 days	6	1%
151-180 days	2	0%
180+ days	3	1%
<p>In a separate analysis of eight completed projects that included contract modifications among a larger sample of project documents for 24 projects, it was noted that six of those projects included an average 430 days of approved time extensions.²³</p>		
CAUSE		
<p>It is common for unforeseen conditions related to archeology, geotechnical conditions, and hazardous material abatement to present themselves on construction work at DOE facilities, often forcing construction to stop while necessary remediation takes place. While the PMS does include allowances in some consultant contracts, there is no contingency to address true unforeseen conditions that require design contract modifications</p>		

²³ Neither duration of time extension or the existence of the time extension can be tied directly back to consultant contract modifications. However, the presence of consultant contract modifications likely contributes to projects delays.

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CATEGORY 1: DESIGN AND PROJECT MANAGEMENT
Finding 8: Consultant contract modification processing causes project delays.
during construction. As noted, design quality issues leading to post-contract documents can lead to contract modifications as well.
EFFECT
The consultant contract modification approval process leads to delays on construction projects and reduces the likelihood that FDB is able to achieve best value for such projects. In addition, DOE projects may develop a reputation in the general contractor community for its design-related delays. General contractors may increase their pricing for DOE projects to protect themselves and account for the inefficiency of starting and then stopping a project. On projects subject to delays related to consultant contract modifications, general contractors may disengage and demobilize to address projects with other owners and DOE projects may not be a priority once they are ready to restart.
CRITERIA
Owners with large capital project programs typically have graduated contract approval thresholds to balance risk and efficiency. Savvy owners rely on comprehensive master planning and effective design review to reduce or eliminate delay-causing design changes once construction has started. When there is a risk of unforeseen conditions, owners use allowances or contingencies based on the anticipated exposure to reduce project disruption.
RECOMMENDATION
FDB should streamline the consultant contract modification approval process. FDB should continue the use of allowances in consultant contracts and consider ways to increase their use on projects more likely to encounter unforeseen conditions. FDB should continue to balance the use of allowances with concerns about over encumbering and needlessly tying up funds.
The use of purchase orders for modifications below a certain threshold may also help streamline the approval process. For instance, if a modification is less than 10% of the contract value or \$10,000, then FDB can consider using a purchase order which PMS personnel indicated get processed in about one week.
Finally, increasing the value of contracts that require attorney general review, as suggested in phase I of this assessment, will reduce one step of the approval process for some contract modifications.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION
Finding 9: Delays in issuing notices to proceed (NTP) lead to increases in construction costs.
CONDITION
In a sample of 224 projects for which both the contract award date and NTP date were available, FDB issued NTPs after 180 days for 26% of the contract awards. Per the Interim General Conditions, general contractors can submit a claim for cost escalation if FDB does not issue an NTP within 180 days of awarding the contract.
CAUSE
Insufficient capital planning to account for CMS personnel available to perform the volume of projects in FDB’s pipeline overextend FDB personnel and delay project starts. Working with consultants who are inexperienced with the permitting process on neighbor islands may slow the permitting process for projects at schools located on neighbor islands. Consideration of school schedule can impact project start timing for certain projects.
EFFECT
Delays in issuing NTPs beyond 180 days increase the risk of change orders due to cost escalation, increasing project costs for FDB and reducing the value FDB receives from its biennium capital budget. Knowing that their projects may not begin until as long as six months after bid, general contractors may factor in price escalations into their bids, increasing project costs for FDB.
CRITERIA
Section 3.10.4 of the Interim General Conditions – 1999 Edition allows general contractors to submit a claim for labor and material costs (but not overhead costs) which are directly attributable to delays beyond the first 180 days if FDB does not issue a notice to proceed within 180 days after the award of the contract.
In the construction industry, it is atypical for general contractors to be asked to hold proposed contract pricing beyond 90 days.
Section 3.4.1 of the Interim General Conditions – 1999 Edition specifies that FDB shall award the contract within 60 days of the opening of bids.
RECOMMENDATION
FDB should improve capital planning to reduce the time it takes to issue NTPs once it awards a contract. PMS personnel should work with consultants to obtain necessary permits and review design and bid documents to verify that documents are construction-ready prior to the bid. The Interim General Conditions give FDB flexibility in how quickly it awards contracts after the bid closes. While FDB should act with expediency when practical to do so, if FDB anticipates permitting or other hurdles in issuing an NTP shortly following the award of the contract, particularly

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 9: Delays in issuing notices to proceed (NTP) lead to increases in construction costs.

for a project at a school on a neighbor island, it should use as many of the 60 days allotted for awarding the contract before doing so. Including 60 additional days between bid close and NTP, the number of contracts that exceed the allotted 240 days for the original sample drops from 58 to 22, or 10% of the original sample.

FDB should also continue to hold preconstruction conferences that include the general contractor, ASA, principal, consultant, project coordinator, and construction manager to try to facilitate project scheduling while making efforts to consider school timing concerns.

While the sample considered in this finding does not include any contract processed through HePS, FDB has faced a temporary surge in processed bids since it became mandatory for general contractors to submit bids through HePS in March 2012. FDB should prepare to address the award of these contracts systematically to avoid delaying NTP issuance and processing an increased number of change orders related to material and labor escalation costs.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 10: DAGS may be insufficiently staffed to proactively address work orders on neighbor islands.

CONDITION

On neighbor islands, DAGS is responsible for helping schools prioritize R&M and managing some R&M and CIP, as well as prioritizing and addressing work orders. In addition to responsibilities related to DOE facilities, DAGS also manages projects related to state facilities on its islands. The neighbor island DAGS teams include inspectors and a staff of tradespeople who work on both state and DOE facilities. As opposed to O’ahu, where FMB personnel execute and manage work orders and CMS personnel inspect schools and manage larger R&M projects and CIP, DAGS on neighbor islands, between DAGS Public Works and DAGS Central Services, is responsible for addressing work orders and managing larger R&M and CIP. One DAGS engineer estimates that neighbor island DAGS personnel focus 80% of their efforts on DOE projects. Also in contrast to O’ahu, where FMP, BIPS, and CMS personnel proactively identify school maintenance needs as they address other projects and requests, DAGS has limited resources to proactively identify and address maintenance needs at schools.²⁴

Inspector and tradesperson staffing on neighbor islands is generally lower than staffing levels on O’ahu, and O’ahu staff, between the FMB and FDB CMS inspectors, are fully devoted to DOE projects and typically do not have to travel as far as inspectors and engineers on neighbor islands. Figure 1 below shows the tradespeople staffing levels per district.

²⁴ BIPS assists on neighbor islands on a limited basis.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 10: DAGS may be insufficiently staffed to proactively address work orders on neighbor islands.

Figure 1: Tradesperson Staffing by District

Trade	<----- DAGS Staff ----->			<----- FMB Staff ----->			
	Hawai'i	Kaua'i	Maui	O'ahu - Central	O'ahu - Honolulu	O'ahu - Leeward	O'ahu - Windward
Plumber	3	1	3	3	3	3	3
Painter	2		4				
Carpenter	10		7	6	6	6	6
Electrician	4	1	3	4	4	4	4
Mason	1						
Cabinet Maker	1						
Supervisor	3	3	1	3	3	3	3
Laborer	7	11	4	10	11	10	9
Total	31 ¹	16	22	26	27	26	25
Number of Schools	43	16	30	42	53	42	30
Tradespeople Per School	0.72	1.00	0.73	0.62	0.51	0.62	0.83
District Area (mi ²)	4,028	552	1,127	<----- 593 ----->			
Area (mi ²) per Tradesperson	130	35	51	<----- 6 ----->			

¹ Includes two unfunded positions, thus there are 29 authorized positions.

The figure illustrates that on a per school basis, trades person staffing is lowest among the O'ahu districts. However, FMB personnel indicated that resource sharing occurs between the O'ahu districts when there is a need. Thus, for the largest island, Hawai'i, and for an island with some remote and outer island complexes, Maui, DAGS tradesperson staffing levels approach the lows of the O'ahu districts without the possibility of resource sharing. It should also be noted that a third-party construction manager manages all CIP and large R&M on Kaua'i so DAGS personnel on Kaua'i focus only on work orders.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 10: DAGS may be insufficiently staffed to proactively address work orders on neighbor islands.

The performance objective for emergency work orders as outlined in the Service Level Agreement (SLA) between DAGS and DOE sets a goal for DAGS to complete 85% of work orders within three days. Because DAGS converts emergency work orders to trouble calls in Maximo once the emergency is abated, there is no way to measure responsiveness and performance against the SLA performance objectives for emergency work orders.

Another measure of DAGS' ability to address work orders is work order aging. The performance objectives in the SLA are to complete 75% of work orders within 12 months. Though DAGS appears to be meeting the performance objectives for completing work orders within 12 months on the neighbor islands,²⁵ based on interviews performed, perception among neighbor island ASAs, complex area business managers, complex area superintendents, and principals interviewed is that DAGS is slow to respond to most non-emergency work order requests and does not proactively inspect facilities for preventative maintenance purposes.²⁶

Figure 1 also illustrates that DAGS, as well as FMB on O'ahu, has limited skilled tradespeople such as plumbers and electricians. Work orders can be delayed because the specialized nature of the work requires skills that only a few DAGS staff possess. If those staff are busy on other projects, the DAGS Central Service engineer can contract out the work, which also protracts the repair process. As will be discussed further in Finding 12, if school users on the neighbor islands determine that they have facilities needs that DAGS cannot address within the users' timing needs, users are likely to draw from their Weighted Student Formula (WSF) funding and contract directly with a third party to remediate the issue. As noted for O'ahu, FMB is often able to overcome limits on skilled staffing by sharing resources across districts.

²⁵ Analysis based on work orders reported in fiscal year 2012 for Hawai'i, Kaua'i, and Maui.

²⁶ Percentage of work orders started 30 days or more after the work order was reported by island (fiscal years 2011 and 2012):

Hawai'i – 28%

Kaua'i – 37%

Maui – 20%

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION
Finding 10: DAGS may be insufficiently staffed to proactively address work orders on neighbor islands.
Another indication that DAGS' level of service has decreased is the perception from school users that DAGS has pared back on its functions for the schools. For instance, on Hawai'i, one principal noted that DAGS no longer installs television brackets and smart boards because of liability issues related to handling and installing school-owned equipment. ²⁷
On O'ahu, ASAs and principals were largely satisfied with the level of service and responsiveness from FMB personnel.
CAUSE
Budget cutbacks and limitations have hampered DAGS' ability to assemble a staff of tradespeople with diverse skills on neighbor islands. Additionally, DAGS engineers and tradespeople devote some of their attention to maintaining other, non-DOE, state facilities.
EFFECT
Delays in addressing work orders lead to deferred maintenance at DOE facilities, which could develop into larger, more costly-to-repair issues and student safety concerns. When school stakeholders determine that DAGS' attention to addressing the work order does not meet the urgency of the work order, schools are likely to work with ASAs to solicit and contract directly with a third party to complete the work. This creates risk for DOE because though ASAs appear to have a strong knowledge of Hawai'i procurement requirements, it is difficult for FDB to monitor procurement activities between the schools and third-parties. Furthermore, and of larger concern, schools pay for this type of work directly from their WSF funding, which is meant to be used primarily for educational purposes. ²⁸ School users may grow disenchanted with the Maximo work order system and lose confidence in DAGS' ability to proactively address maintenance and repair issues.
CRITERIA
Portfolio real estate owners invest in proactive maintenance and timely repairs to preserve the value of investments in their properties.
RECOMMENDATION
FDB should determine the appropriate staff size and reporting structure for neighbor island trades people and skilled labor to adequately address work orders on neighbor islands. FDB should consider reorganizing work order operations for neighbor islands into units of tradespeople and skilled laborers under an island-dedicated maintenance management team, similar to O'ahu's FMB. FDB should work with FMB to determine if

²⁷ Schools are also responsible for school-supplied equipment on O'ahu.

²⁸ This issue will be described in more detail in Finding 12.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 10: DAGS may be insufficiently staffed to proactively address work orders on neighbor islands.

these teams should report to FMB. Additionally, FDB should continue to leverage BIPS inspectors on neighbor islands to manage mid-level R&M that does not escalate to the category of large R&M.

FDB should enforce the agreed-upon service levels in the SLA with DAGS and remediate under performance. DAGS should adapt a process similar to FMB to recognize and track emergency work orders so performance against the SLA performance objectives can be measured.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 11: DAGS may be insufficiently staffed to manage quality for neighbor island R&M projects and CIP.

CONDITION

For some larger R&M and CIP, DAGS serves as construction manager and oversees the activities of general contractors. DAGS personnel indicated that a DAGS inspector may manage two to five projects at any time, with one peak period reaching 10 projects per inspector. While the number of inspectors on the neighbor islands is commensurate with the number of FDB inspectors on O’ahu, including BIPS inspectors, DAGS inspectors also oversee projects related to state facilities, tend to travel greater distances to reach projects, and manage work orders at the same time that they manage large R&M and CIP.

Managing multiple large R&M or CIP projects can overextend DAGS inspectors, leading to oversights in project inspection. One example occurred on the Konawaena High School softball field project. The general contractor provided a submittal for bleachers that did not conform with the bleachers the architect specified. The general contractor did not note a deviation from the construction plans, as it was required to do when proposing a substitution. The architect and project coordinator did not catch the substitution and the general contractor was able to install inappropriate bleachers before the DAGS inspector caught the error. Similarly, poor workmanship on fencing was not immediately addressed. In addition, the final inspection for the project was completed in January 2012, and as of September 2012, contract requirements such as providing padlocks and base plugs, as well as finding a workable solution for replacing the bleachers were still not addressed.

A similar oversight occurred at Paia Elementary School related to the new cafeteria building. Part of the project included site work adjacent to the facility. The ASA and principal identified a fire hydrant that was improperly coordinated between design and construction and was thus constructed in the middle of the sidewalk, limiting the usefulness of the sidewalk.²⁹

CAUSE

Budget cutbacks and limitations have hampered DAGS’ ability to assemble staffs of inspectors and engineers to meet DOE facilities’ quality needs. Additionally, DAGS engineers devote some of their attention to maintaining other, non-DOE, state facilities.

²⁹ In this assessment, issues related to project quality were uncovered anecdotally and noted through site observation where possible. Interviews took place with select ASAs, Complex Area Business Managers (CABM), Complex Area Superintendents (CAS), and principals for schools or complexes on each island. The limited sample of personnel interviewed on O’ahu did not share any recent quality concerns attributed to insufficient project oversight.

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EFFECT	
Projects that require rework or are delayed by quality issues may lead to change orders, draw down project contingency, and exceed project budgets, reducing the efficiency with which FDB uses its biennium capital budget and leading to idle or unusable facilities. Additionally, extended campus disturbance and long delays, as seen at Konawaena High School, lead to ASA and principal frustration and program disruption. Principal dissatisfaction is exacerbated when they note safety or quality concerns that a DAGS inspector would catch if DAGS had sufficient capacity to provide regular onsite supervision. When delays occur, or safety or quality concerns arise, campus users perceive FDB and DAGS as providing poor customer service, especially when compared to O’ahu schools.	
CRITERIA	
Construction project owners rely on regular field oversight to impact and monitor construction quality and schedule.	
RECOMMENDATION	
FDB should reevaluate neighbor island staffing levels to manage and inspect large R&M and CIP. FDB should consider assigning inspectors dedicated only to DOE R&M and CIP on neighbor islands, similar to the structure on O’ahu.	

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 12: Delays in DAGS and FDB addressing school-requested projects has led neighbor island schools to use their general education funds (Weighted Student Formula funding) to address selected facilities projects.

CONDITION

As noted in Finding 10, if school users on the neighbor islands determine that they have repair or maintenance issues that DAGS cannot address within the users' timing needs, users are likely to draw from their WSF funding and contract directly with a third party to remediate the issue. Schools have the option of reprioritizing projects and substituting a project that they deem to be urgent with one of their higher priority projects for that annum. However, schools are reluctant to make that substitution because in many situations they would be forced to perform the urgent, but relatively inexpensive project in place of a much more costly project on their prioritized backlog. Because of the reduced controls in place for school-performed projects, it is difficult to fully quantify the frequency with which these projects occur, the impact of the reallocation of WSF away from education needs, and what, if any, premiums the schools pay to contractors due to their limited knowledge of trade and construction procurement. However, in discussing the use of WSF funding for facilities projects with a selection of six neighbor island elementary, middle, and high school principals, all six noted that they have used WSF funding to address facilities projects when they could not wait for DAGS to perform a repair or FDB to scope and design the project. Following are examples, gleaned through interviews, of schools using, or being faced with using WSF funding to perform R&M work not covered in the matrix of facilities responsibilities.³⁰

- A project at a school in Hawai'i included new flooring. Per the facilities responsibility matrix, schools are responsible for waxing floors. When the wax on the new floor failed shortly after project completion, the school requested that DAGS investigate to determine if the issue was covered under warranty and to re-wax the floor. DAGS referred the school to SSFM, the third-party consultant that managed the construction to determine the status of the warranty. When the school could no longer wait for the determination of whether the issue could be addressed by the warranty to be made, the custodian re-waxed the floor.
- In order to integrate a voice system into the program bell to make the program bell fully functional, a high school on Hawai'i would have had to pay \$30,000 out of its WSF funding. As of September 2012, the school had elected not to expend WSF funding for the integration and the voice system integration had not taken place.
- Multiple buildings at a high school on Hawai'i were defaced by graffiti. Though incidental graffiti removal responsibilities belong to the

³⁰ The Auxiliary Services Group compiled a matrix of Facilities Responsibilities covering each island.

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<p>school, the school requested DAGS' assistance to remediate the wide-spread issue that was beyond the scope of graffiti cleanup contemplated by the matrix of facilities responsibilities.³¹ When DAGS indicated that it was not responsible for the graffiti cleanup, the school paid \$20,000 out of its WSF to remove the graffiti.</p> <ul style="list-style-type: none"> • A Maui high school used WSF funding rather than wait for DAGS to process a work order request to install ceiling outlets for projectors in order to avoid fire code violations. • A Maui elementary school used WSF funding because it had an urgent need to create a space for a special-needs student. <p>In discussions with a select group of ASAs and principals on O'ahu, none of them noted using WSF funding to address work-order-level R&M or other facilities projects, and all of them were pleased with the responsiveness and ability of FMB personnel regarding work orders.</p> <p>There are five functions on the facilities responsibilities matrix that FMB addresses on O'ahu but which schools are responsible for on neighbor islands. In addition, there are slight variations between the neighbor islands regarding the allocation of responsibilities.</p>
CAUSE
<p>DAGS on neighbor islands appears to be insufficiently staffed to respond to work orders and address some projects with the urgency that schools require. Rather than reprioritize relatively inexpensive, but more urgent repairs over costlier projects, schools may choose to use WSF funding to address urgent projects.</p>
EFFECT
<p>Using WSF funding to address facility projects that are FDB's responsibility may shift money away from educational programs. As it appears that the use of WSF funding for facilities projects is more common on neighbor islands, neighbor island schools may not be able to devote as large of a proportion of their WSF funding to education programs as schools on O'ahu can.</p> <p>Performing projects independent of FDB oversight creates challenges for FDB to track school assets and may lead FDB personnel to discover conditions that they were not aware of when they scope and perform subsequent R&M and CIP at the school. Unforeseen conditions could lead to</p>

³¹ The SLA does define extensive graffiti as a Type II Emergency Repair and does allocate responsibility to DAGS for remediation.

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delays and increased costs in project scoping and construction.	
CRITERIA	
R&M and CIP are funded through the FDB biennium budget. WSF funds are allocated for school programmatic use, custodial supplies, and specified small R&M. School districts establish controls and take steps to eliminate funding or other inequities in their school systems.	
RECOMMENDATION	
FDB should provide consistent service and attention to school facilities throughout the state. FDB and FMB should work together to establish a group in each district with a structure and set of responsibilities similar to FMB on O’ahu. Having units dedicated to vetting and performing work related to work orders that come in through school Maximo requests will alleviate some of the burden on the DAGS team, allowing them to focus on DOE R&M and CIP. With a team of engineers and inspectors devoted to R&M and CIP on each island, FDB will have the option of managing more projects internally rather than procuring third-party construction managers.	
Concurrent or independent of this structure, FDB and FMB should work together to continue to provide regular training to custodians on how to perform the facility repairs for which schools are responsible. Additionally, FDB and FMB should work together to provide regular training to ASAs and custodians on best practices for making work order requests through the Maximo system and filling out consolidated project request forms.	

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 13: FDB does not adequately work through Administrative Services Assistants (ASAs) to keep school stakeholders apprised of project status.

CONDITION

FDB and DAGS provide project status updates on an inconsistent basis to school users such as principals and custodians, especially on projects with infrequent owner-architect-contractor (OAC) meetings. Principals, custodians, and ASAs noted that particularly for R&M projects and work orders for schools on neighbor islands, project coordinators and inspectors do not provide sufficient status updates regarding the status of a prioritized project, the anticipated timing to complete a work order, or the status of an ongoing construction project. In particular, some school users and DOE personnel expressed frustration with the difficulty in obtaining the status of work orders once they input them into the Maximo system. Users noted that when DAGS rejects or cancels work orders, they may not be notified or given a reason. The system generates an automatic email when DAGS cancels work orders, but the email goes to a generic school email address rather than to the person who submitted the work order.

Some users also noted that DAGS does not provide a timeframe in which it anticipates addressing projects. For most large R&M and CIP projects, FDB and DAGS hold regular owner-architect-contractor (OAC) meetings and school users are included. However, most projects are smaller and a regular OAC meeting does not occur. In these cases, the school users rely on updates from the project coordinator or inspector. In one case, a DAGS inspector visited a project and filed reports three times a week. However, because he was not updating the principal, custodian, or ASA, the principal's perception was that DAGS was not inspecting the job.

ASAs serve as the primary liaison between the school users and DAGS or FDB. According to the ASA position description, ASA responsibilities include everything from assisting in prioritizing and budgeting projects to serving as project coordinator for select small repair and maintenance projects. ASA responsibilities pertaining to facilities represent 45% of ASA position duties.³² However, ASAs reported devoting anywhere from 30% to 70% of their time to facilities. As ASAs report to Complex Area Business Managers (CABM) and Complex Area Superintendents (CAS), and assist principals with ad hoc tasks, the role of the ASA may differ by complex. Thus, some ASAs may devote more time to R&M and CIP taking place in their complex than others, and may be better equipped to facilitate communication between FDB or DAGS and the school users.

³² The ASA position description allocates 45% of position duties to facilities and grounds, 25% to safety services, 25% to fiscal assistance, and 5% to other duties.

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Finding 13: FDB does not adequately work through Administrative Services Assistants (ASAs) to keep school stakeholders apprised of project status.

Despite facility responsibilities representing a majority of most ASA's responsibilities, the position description lists only business administration, finance, and accounting experience among the minimum recommended requirements. Professional experience in facilities management is relegated to preferred knowledge, skills, and abilities. ASAs are expected to interpret design documents for school users, comprehend certain technical aspects of construction, and understand project budgets. Yet, most ASA do not have formal training in engineering or construction project management.

CAUSE

FDB project coordinators and FDB and DAGS inspectors are not required to have regular points of contact with school users during the execution of projects.

DAGS engineers and inspectors do not consistently update users on the status of work orders and technology is not leveraged to facilitate on-demand updates (as noted in Finding 2).

Some ASAs may not have the appropriate skills and experience to interact on a technical level with project coordinators, inspectors, consultants, and general contractors, and explain project status and issues to school users in layman terms. FDB does not provide regular training to ASAs and other users to impart the skills necessary to support facility maintenance and development.

EFFECT

School users become frustrated if ASAs, DAGS personnel, or FDB personnel do not update them on work order or project backlog priorities or status. Users can feel that DAGS or FDB make decisions unilaterally. School users may be more inclined to bypass the Maximo system or Consolidated Project Request form system and contract directly with third parties for repair or other facilities work leading to suboptimal use of WSF funding. ASAs who do not devote sufficient time to facilities maintenance projects or are under qualified to perform technical duties related to R&M and CIP, do not adequately serve as liaisons between FDB and DAGS and school users.

Principals and ASAs expressed concern that they do not have a direct feedback and evaluation mechanism for consultants, project coordinators, or inspectors, particularly when design oversights coupled with insufficient construction supervision lead to quality or safety concerns, or project delays. If inspectors or project coordinators do not respond to principal and ASA concerns, schools feel disenfranchised and that they have no

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control over projects on their campuses.	
CRITERIA	
Construction owners who manage projects on behalf of end users facilitate execution and project delivery by engaging and updating end users during all phases of design and construction.	
RECOMMENDATION	
FDB and DAGS should improve communication with school users related to work order status, especially for cancelled work orders, and FDB should redefine the ASA role to facilitate connectivity with the school users. Project coordinators, construction managers, and inspectors should establish regular meetings or phone calls with ASAs to provide updates on project prioritizations and ongoing R&M and CIP projects. In turn, ASAs should communicate project status to school users. FDB's recent change of assigning project coordinators by complex will help project coordinators deepen relationships with ASAs and centralize points of contact for project coordinators.	
As part of redefining the role of the ASA, FDB, and FMB should provide regular facility maintenance and project management technical training to ASAs to endow them with the skills necessary to fulfill their job expectations. As noted in Finding 6, FDB and FMB should also train ASAs and appropriate school users to provide sufficient and specific descriptions for work order and project requests through the Maximo system or Consolidated Project Request forms. In the long term, FDB should consider whether the ASA role should be consolidated into FDB and if ASAs should report to FDB management to facilitate execution of facility responsibilities.	

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION
Finding 14: FDB does not incorporate and consistently enforce effective liquidated damages clauses for construction contracts.
CONDITION
Contracts with general contractors specify liquidated damages for project completion beyond the contract completion date ranging from \$200 per day for most small contracts up to \$2,000 per day for ground-up construction projects. According to FDB management, liquidated damage amounts, particularly on small jobs, may not incentivize general contractors to meet contractual completion dates. FDB management also noted that in cases where project records are insufficient to support a claim of liquidated damages, FDB may seek to negotiate a settlement rather than apply liquidated damages. A review of a selection of project folders revealed that FDB will put general contractors on notice for liquidated damages when the contract completion date passes, with the Wailuku II Elementary School (Puu Kukui) project being a notable recent example. FDB management estimated that FDB applies liquidated damages in 10% of relevant cases.
CAUSE
FDB determines liquidated damages amounts based on a percentage of the project size rather than estimating the costs of specific project variables based on an extended period of performance. FDB sporadically enforces and collects liquidated damages because it does not want general contractors to rush to complete jobs at the expense of quality, the money that comes back to FDB cannot be productively used on other projects, and for most projects, damages cannot be tied to specific economic loss due to delays. FDB management indicated that the attorney general is reluctant to pursue large damages claims because of the difficulty for schools to quantify damages and the lack of success in adjudicating disputes of this nature.
EFFECT
Liquidated damages clauses that cannot be tied to the extension of project support costs or other costs incurred by the owner due to project delays are more difficult to enforce. The perception that FDB will not enforce such clauses may breed complacency among general contractors in terms of working urgently to meet contract completion dates. General contractors with portfolios of projects may deprioritize FDB projects leading to protracted periods of project performance, additional costs related to consultant overhead, and school user dissatisfaction because of project delays and safety concerns due to the disruptive nature of laydown areas or job sites to school activities.
CRITERIA
Owners estimate liquidated damages by making a reasonable approximation of actual damages for late project delivery by the general contractor. Estimates should be based on factors such as costs of additional project management and design support, rental of alternative space, interest, lost time due to travel, ineffectiveness of programs due to inadequate space, and lost revenue. Owners should proactively and effectively enforce liquidated damages clauses to protect their interests.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION

Finding 14: FDB does not incorporate and consistently enforce effective liquidated damages clauses for construction contracts.

RECOMMENDATION

FDB should determine liquidated damage amounts it uses in contracts with general contractors based on the impact of late project delivery, but enhance its liquidated damages estimates to incorporate project-specific considerations such as the cost of additional construction management and design support for the project. To protect itself legally, FDB should continue to put general contractors on notice for liquidated damages when projects exceed contract completion dates, even if FDB does not anticipate assessing liquidated damages.

Many of FDB's projects occur at existing schools, so other than endeavoring to reduce programmatic interruption and containing construction management and design oversight costs, timing for project completion is not typically urgent or driven by external factors. However, in the rarer circumstances when time is of the essence, such as the construction of the new Wailuku II Elementary School (Puu Kukui) which must be open for the 2013-2014 school year, FDB should consider including an incentive/disincentive clause to motivate on-time or early completion as well as to adequately mitigate its risks if project delays negatively impact the school opening date.

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION
Finding 15: Project contingency may be insufficiently developed to address common unforeseen conditions.
CONDITION
<p>FDB generally calculates contingency for construction contracts by applying a percentage to the contract value, usually five or seven percent. FDB typically sets contingency for R&M, which usually involves more unforeseen conditions, at seven percent, and CIP at five percent. FDB may not include contingency for some project types, such as reroofing. The percentages are not based on historical FDB performance.</p> <p>In a review of a sample of 28 files of project documents for projects at various stages of execution, it was noted that 14 included sufficient information to determine the construction contingency amount. Of those 14 projects, contingency was overdrawn on 10 projects. When FDB exceeds the budget, it must request additional funding through the Notice-of-Insufficient Funding (NIF) process.</p>
CAUSE
FDB appears to apply standard contingency percentages to projects rather than mining the wealth of historical project information it has or developing contingency based on specific project risks to determine appropriate, project-specific contingency.
EFFECT
When FDB exhausts contingency and approved funding on projects, it must request additional funding, leading to project delays while additional funding is released.
CRITERIA
Owners with strong corporate governance procedures establish controls to develop budgets during planning and track budgets closely with forecasted costs during project execution. Owners develop contingency based on specific project risks or unknowns, or estimate contingency using a reasonable percentage based on sound empirical evidence.
RECOMMENDATION
<p>To further develop contingency for projects, FDB should use existing databases of its projects to gauge the accuracy of calculated contingency and incorporate mechanisms to facilitate data collection related to contingency in future technology updates. By using database information to break projects into common project types, FDB can better establish and apply contingency amounts by project type. Planners, PMS personnel, and CMS personnel can use these metrics as a baseline for establishing contingency in budgets. FDB personnel should consider specific project risks and adjust the baseline contingency amount as necessary.</p> <p>FDB should continue to closely manage contingency accounts to verify that funds are properly used and that controls are in place for review and approval of any change orders that draw against contingency.</p>

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CATEGORY 3: CONSTRUCTION MANAGEMENT AND ADMINISTRATION	
Finding 16: The standards set by the Service Level Agreement with DAGS do not appear to adequately meet the needs of neighbor island schools.	
CONDITION	
<p>The SLA establishes performance objectives for DAGS for addressing emergency work orders, minor repairs, and major construction contracts. Based on inquiry with neighbor island ASAs and CABMs, DAGS is very responsive in emergency situations, but takes too long to address minor repairs. In contrast to this perception, DAGS does meet the objectives for completing 75% of total work orders within one year. Performance against performance objectives for emergency work orders cannot be measured for Hawai'i and Kaua'i because DAGS Central Services converts work orders that start as emergency work orders into regular trouble calls once the emergency is abated, losing the record of the original work order type.³³ On Maui, DAGS does not change the work type of emergency work orders or mark the emergency work order complete and open a new work order once the emergency is secured, making it difficult to measure when emergencies are secured.</p> <p>The SLA does not establish performance objectives for FACTRAK use and fully define document retention requirements.</p>	
CAUSE	
<p>FDB and DAGS last amended the SLA in October 2006. Thus, the SLA includes outdated references, does not establish performance objectives for FACTRAK use or define document retention requirements, and may no longer include performance objectives for completing work orders that meet user needs. Additionally, SLA performance objectives related to major construction may not consider changes in DAGS Public Works staffing since 2006 and the current volume of large R&M and CIP at schools on neighbor islands.</p>	
EFFECT	
<p>Users are dissatisfied with DAGS' ability to respond to and address work orders expediently, and DAGS' capabilities to sufficiently supervise large R&M and CIP. DAGS inconsistently retains project documentation and does not consistently populate FACTRAK with key milestone data and project documents.³⁴</p>	

³³ On O'ahu, FMB indicates that it closes the emergency work order once the emergency is abated and opens a separate work order for any trouble call needed to complete the repair, leaving a record of performance for abating emergency work orders.

³⁴ See Finding 3.

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Finding 16: The standards set by the Service Level Agreement with DAGS do not appear to adequately meet the needs of neighbor island schools.

CRITERIA

Owners with long-term service contracts must revisit and renegotiate those contracts on a regular basis, usually annual or biennially in order to set realistic terms and performance objectives. When the SLA service level requirements are not met, FDB should take corrective action to improve service.

RECOMMENDATION

As part of redefining responsibilities for DAGS related to the repair, maintenance, and construction of schools on neighbor islands, DOE should renegotiate the SLA with DAGS. At a minimum, DOE should incorporate updated references to FDB sections and FDB and DAGS positions as well as performance objectives for document retention and FACTRAK usage for large R&M and CIP. In conjunction with and consideration of a redefinition of DAGS responsibilities, DOE should raise performance objectives related to work order completion times and project oversight to better serve users. Following are specific areas where the SLA can be improved:

- Establish protocols for DAGS to track emergency work orders in Maximo so performance for such work orders can be measured.
- Clarify references to and responsibilities of DAGS Central Services and DAGS Public Works.
- Revisit the Custodian and Facilities Responsibilities Matrix to assign additional responsibilities to DAGS to address items where it has the expertise and capacity and schools do not.
- Consider tailoring the SLA for each neighbor island district to reflect local conditions by applying the core SLA to all districts and creating an addendum for each district.
- Incorporate requirements for the development of quarterly reports for users so DAGS can demonstrate the level of service it provides.
- Require routine contact between FDB, FMB, and DAGS Central Services and DAGS Public Works on neighbor islands through video conference and periodic in-person meetings.

FDB management indicated that it is currently in the process of renegotiating the SLA on behalf of DOE with DAGS; DOE and DAGS should revisit the SLA annually and in conjunction with performance against objectives and other organizational changes, make amendments that challenge DAGS and facilitate providing neighbor island users the best possible service.

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CATEGORY 4: PROJECT CLOSEOUT AND ASSET INVENTORY
Finding 17: Delays in construction project closeout increase FDB risk.
CONDITION
FDB does not diligently close out projects according to branch requirements. General contractors typically have 10 days after project acceptance to complete any punch list work, and an additional 75-80 days to provide required closeout documentation such as as-built drawings, maintenance service contracts and equipment lists, operations and maintenance manuals, air conditioning test and balancing reports, and any other technical submittals required by the specifications. Thus, projects should be closed within 90 days of project acceptance. In a review of 1,581 projects accepted prior to May 2012 for which FDB populated the acceptance date, 311 records are without close out dates. For the remainder, 72% were accepted after 90 days, with average acceptance time at about 304 days.
CAUSE
FDB is slow to close construction projects because documentation is not efficiently managed. Project closeout documentation typically requires a handoff of the project from CMS back to PMS, and document review by consultant and PMS personnel, especially for CIP and large R&M. For neighbor island projects managed by DAGS or third-party construction managers, the handoff of documentation to PMS is more problematic in terms of the consistency of document retention and organization of documents. When a project reaches the acceptance stage, some consultants, and most PMS personnel have deprioritized the project and are thus slow to gather and review necessary closeout information.
EFFECT
Allowing projects to remain open and slowness in gathering closeout documents creates risk for FDB because warranties may be jeopardized if missing operations and maintenance manuals and as-built drawings prevent proper maintenance of aspects of construction that FDB has accepted.
CRITERIA
Per Part I of Policies and Procedures Relating to Closing of Construction Contracts: <ol style="list-style-type: none"> 2. Construction projects shall be closed and the Notice of Final Settlement shall be posted no later than three months (90 calendar days) after the Project Acceptance Date. 3. The correction of final punch list items shall not be more than ten (10) working days in arrears from the correction deadline specified in the project acceptance notice or agreed-upon revised deadline for completion of same.
In general, savvy owners seek to minimize risk and close projects as soon as the general contractor has met all its requirements.
RECOMMENDATION
FDB should improve controls to more frequently meet the 90-day requirement to close construction projects. When appropriate, FDB should

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CATEGORY 4: PROJECT CLOSEOUT AND ASSET INVENTORY

Finding 17: Delays in construction project closeout increase FDB risk.

continue to enforce liquidated damages in accordance with Section 00800 – Special Conditions §1.04B and §1.04C of the project specifications for failure to correct punch list deficiencies and failure to submit closing documents within the specified timeframes.

With the recent retirement of a key member of the CMS team who populated FACTRAK information and monitored construction closeout milestones, FDB should designate an employee to take on those populating and monitoring responsibilities. Rather than having PMS personnel assume responsibility on the back end of projects, CMS personnel should increase their roles in working with consultants to gather, review, and archive operations and maintenance manuals, as-built drawings, and other closeout document requirements. FDB should consider ability to meet project closeout deadlines as another project management milestone metric to include in CMS personnel evaluations.

CMS personnel should work with general contractors to gather closeout documents such as operations and maintenance manuals as they become available throughout the execution of the project. FDB should continue to withhold final payments until the general contractor meets all project closeout requirements and final settlement of the contract takes place.

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Appendix 1 – Interview List

INTERVIEW LIST		
INTERVIEWEE	POSITION	DATE
Tracy Okumura	General Professional VII	August 16, 2012
Robert Purdie	Engineer VI – Project Management Section Unit II Head, Public Works Manager – Construction Management Section	August 20, 2012
William Like	Engineer VI – Construction Management Section	August 20, 2012
Harold Alejandro	Engineer IV – Project Management Section Unit I	August 21, 2012
Benjamin Miura	Engineer VI – Project Management Section Unit I	August 21, 2012
Mitchell Tamayori	Architect IV – Standards & Quality Assurance Unit, Project Management Section Unit I	August 21, 2012
William Like	Engineer VI – Construction Management Section	August 22, 2012
Mike Shigetani	Public Works Manager – Chair of Pre-Qualified Vendor Selection Committee, Project Management Section Head	August 22, 2012
Robert Purdie	Engineer VI – Project Management Section Unit II Head, Public Works Manager – Construction Management Section	August 22, 2012
Patrick Oyadomari	Administrative Services Assistant – Auxiliary Services Branch	August 23, 2012
Thomas Yee	Work Program Specialist – Auxiliary Services Branch	August 23, 2012
Sheila Sohl	Contracts Assistant II – Auxiliary Services Branch	August 23, 2012
Anna Tongson	Administrative Services Assistant	August 23, 2012
Gilbert Chun	Auxiliary Services Director (TA)	August 23, 2012
Duane Kashiwai	Public Works Administrator	August 24, 2012
Gail Nakaahiki	Complex Area Business Manager Kaua'i	September 18, 2012
Stanley Doi	DAGS Central Services Kaua'i	September 18, 2012
Herbert Iwai	SSFM Construction Manager	September 19, 2012
Kent Tomimoto	Central Services Kaua'i Branch Engineer	September 19, 2012

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INTERVIEW LIST (continued)		
INTERVIEWEE	POSITION	DATE
Miles Tagawa	DAGS – Public Works Kona Branch Engineer	September 21, 2012
Melvin Goya	Administrative Services Assistant Konawaena Complex	September 21, 2012
Claire Yoshida	Principal, Konawaena Elementary School	September 21, 2012
Joyce Crisafi	Principal, Ho’okena Elementary School	September 21, 2012
Noreen Kunitomo	Principal, Honaunau Elementary School	September 21, 2012
Shawn Suzuki	Principal, Konawaena High School	September 21, 2012
Mary Correa	Ka’u-Kea’au-Pahoa Complex Area Superintendent	September 24, 2012
Karie Klien	Complex Area Business Manager Ka’u-Kea’au-Pahoa Complex	September 24, 2012
Chelsey Nishioka	Administrative Services Assistant Ka’u-Kea’au-Pahoa Complex	September 24, 2012
Jerry Watanabe	DAGS Central Services Hawai’i District	September 24, 2012
Corey Kaizuka	DAGS Central Services Hawai’i District	September 24, 2012
Chad Farias	Principal, Kea’au Elementary School	September 25, 2012
Dean Cevallos	Principal, Kea’au High School	September 25, 2012
Ken Watanabe	Principal, Kea’au Middle School	September 25, 2012
Frances Pitzer	Hana-Lahainaluna-Lanai-Molokai Complex Area Business Manager	September 26, 2012
Bruce Anderson	Complex Area Superintendent Baldwin-Kekaulike-Maui Complex	September 26, 2012
Jesse Henderson	Administrative Services Assistant Kekaulike Complex	September 26, 2012
Rodney Toba	DAGS Central Services Maui District	September 26, 2012
Wade Shimabukuro	DAGS Central Services Maui District	September 26, 2012
Richard Horita, Bowers + Kubota	Construction Manager	September 27, 2012
Susan Scofield	Principal, King Kekaulike High School	September 28, 2012
Susan Alivado	Principal, Paia Elementary School	September 28, 2012
Robert Purdie	Engineer VI – Project Management Section Unit II Head, Public Works Manager – Construction Management Section	October 2, 2012

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INTERVIEW LIST (continued)		
INTERVIEWEE	POSITION	DATE
William Like	Engineer VI – Construction Management Section	October 2, 2012
Duane Kashiwai	Public Works Administrator	October 2, 2012
Tracy Okumura	General Professional VII	October 2, 2012
Michael Garcia	Building Construction Inspector, Construction Management Unit	October 3, 2012
Keary Yoshimoto	Building Construction Inspector, Construction Management Unit	October 3, 2012
Dan Taira	Engineer V – Construction Management Unit	October 3, 2012
Ricky Sasaki	Architect V – Construction Management Unit	October 3, 2012
Todd Kaulukukui	Engineer III – Building Inspection Planning Services Unit	October 3, 2012
Keenan Chang	Work Program Specialist	October 3, 2012
Gilbert Chun	Auxiliary Services Director (TA)	October 4, 2012
Clayton Haida	Building Construction Inspector, Central District – Building Inspection Planning Services Unit	October 5, 2012
Anna Tongson	Administrative Services Assistant	October 25, 2012
Niralyn Okuna	Administrative Services Assistant Waianae Complex	October 26, 2012
Randall Miura	Principal, Leihoku ES	October 26, 2012
Kerry Yoneshige	Business Management Officer, DAGS	October 26, 2012
Maelin Ibara	Administrative Services Assistant Roosevelt Complex	November 7, 2012
Anne-Marie Murphy	Vice Principal, McKinley High School	November 7, 2012
Francis Cheung	Administrator – Facilities Management Branch	November 8, 2012
Jill Puletasi	Principal (TA), Manoa Elementary School	November 9, 2012

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Appendix 2 – Documents Reviewed

DOCUMENTS REVIEWED	
POLICIES AND PROCEDURES	
1	Facilities Development Branch Policy and Procedures Manual
2	Construction Contract Administration – July 1980
3	Revisions to the Policies and Procedures Governing Design Consultant Contracts – November 1981
4	Policies and Procedures Relating to Closing of Construction Contracts – February 1984
5	Interim General Conditions 1999 Edition for Construction
6	Repair and Maintenance Project Guidelines – June 1999
7	Policies and Procedures Relating to Changes Initiated During Construction – May 2000
DOE ADMINISTRATIVE DOCUMENTS	
8	Hawaii State Department of Education Directory July 2012
9	FDB and Auxiliary Services Organizational Charts as of August 14, 2012
10	Service Level Agreement Between the Department of Education and the Department of Accounting and General Services – July 1, 2005
11	Service Level Agreement Between the Department of Education and the Department of Accounting and General Services – Amendments Numbers 1 through 4 – October 1, 2006
12	Administrative Services Assistant (ASA) Position Description
13	Weighted Student Formula/School Financial Plan Implementation Manual – Draft 2011 – Page 22 of 38
14	Hawaii Public Schools – 2012-13 Official Enrollment
15	Governor’s Budget Execution Policies FY 2013
16	FDB Staffing and Open Positions
DESIGN AND PROJECT MANAGEMENT	
17	Professional Services Screened List of Consultants – FY 2013
18	Sample Design Scope Meeting Agenda

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DOCUMENTS REVIEWED (continued)	
DESIGN AND PROJECT MANAGEMENT	
19	Sample Record of Consultants' Contract Document
20	Project Checklist
21	Sample Project Coordinator Checklist for Consultant Contracts (Form 37)
22	Biennium Budget and Appropriations FY 2013
PROCUREMENT OF CONSTRUCTION SERVICES	
23	Listing of Contracts Awarded through HePS – FY 2011
24	Listing of Contracts Awarded through HePS – FY 2012
25	Listing of Contracts Awarded through HePS – March 1, 2012 – August 1, 2012
26	Listing of Contracts Awarded through HePS – July 1, 2012 – January 7, 2013
27	Listing of Contracts in HePS Awaiting Award – August 1, 2012
28	Listing of Open Bid Solicitations in HePS – August 1, 2012
29	Sample Bid Analysis and Recommendation
30	Sample HePS IFB Checklist
31	Sample Bid Rejection Letter
32	Bid Analysis – Stevenson Middle School Educational Facilities – Project Q22000-11
33	Snapshot of HePS Login – Bidder View
34	Support Memo to Office of Business Services for Sole Source Procurement – Kilauea Elementary School Cafeteria – June 28, 2006 – Project P0078906
35	Hookena Elementary School ADA Ramp – Request for Proposal and Design Documents
CONSTRUCTION MANAGEMENT AND ADMINISTRATION	
36	CM Section Head Report – August 8, 2012
37	SharePoint Change Order Tracking
38	SharePoint Construction Contract Tracking
39	SharePoint Consultant Contract Modifications

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DOCUMENTS REVIEWED (continued)	
CONSTRUCTION MANAGEMENT AND ADMINISTRATION	
40	Sample Construction Contract – Wailuku II Elementary School – May 2010 – Project Q51003-07
41	Sample Construction Contract – Kaimiloa Elementary School Restroom Renovation – Mach 2012 – Project P81812-08
PERTAINING TO SLA	
42	CSD-710
43	CSD-510
44	Sample U-Fund Reimbursement Request
45	Custodian and Facilities Responsibility Matrix – June 18, 2012
RECEIVED FROM NEIGHBOR ISLANDS	
46	Snapshot of Maximo Work Orders for Maui District – 2011
47	Maui District Backlog of Projects as of August 29, 2012
48	Baldwin Complex Funded but Incomplete Projects – 2011
49	Maui Funded Projects as of September 5, 2012
50	DAGS School Inspection Schedule – Maui District – July-September 2012
MANAGEMENT OF SMALL R&M	
51	Maximo Work Orders for July 1, 2012 – July 31, 2012 – Kaua’i
52	Comparison of Maintenance Costs by Object Codes (Costs by District 2009-2012)
53	Work Order List Report – Island of Hawai’i – FY 2012
54	Work Order List Report – Kaua’i – FY 2012
55	Work Order List Report – Maui – FY 2012
56	Summary of Work Orders – O’ahu – FY 2012
57	FMB Staffing – November 2012
58	DAGS Trade Staffing at District/Base Yard – November 15, 2012

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DOCUMENTS REVIEWED (continued)	
PROJECT CLOSEOUT AND ASSET INVENTORY	
59	Sample Checklist – Documents Required for Closing Subject Contract
SPECIFIC PROJECT FOLDER DOCUMENTATION (WHERE AVAILABLE)	
60	Blueprints – Kaiser High School ADA Transition Plan – May 2012 – Job Q26901-09
61	Project Specifications – Kaiser High School ADA Transition Plan – May 2012 – Job Q26901-09
62	Design Contract – Royal Elementary School Drainage Contract – Job Q23003-11
63	Blueprints – King Kekaulike, Lahainaluna, and Maui High Schools Softball Fields – April 2004
64	Project Specifications – King Kekaulike, Lahainaluna, and Maui High Schools Softball Fields – April 2004
65	Consultant Invoices
66	Pre-Bid Meeting Sign in and Meeting Minutes
67	Allowance Transfer
68	Notice to Bidders
69	Bid Analysis and Recommendation
70	Tax Clearance
71	Bid Protest
72	Construction Contract
73	Commencement Submittal Requirements
74	Requirements and Specifications to Construct
75	Notice of Insufficient Funding (NIF)
76	Performance Bond
77	Form C41
78	Notice to Proceed
79	Meeting Minutes
80	Project Daily Reports
81	General Contractor Payment Application
82	Certified Payroll
83	Certificate of Vendor Compliance

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DOCUMENTS REVIEWED (continued)	
84	Design Addendums
85	Change Orders
86	Requests for Information (RFI)
87	Checklist for Final Contract Submittals
88	Project Acceptance
89	Proof of Final Inspections
90	Warranties
91	Punch List
92	Final Settlement

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Appendix 3 – Sampled Projects

	DOE JOB NUMBER	SCHOOL NAME	PROJECT DESCRIPTION	FACTRAK INPUT <small>Note: This column indicates that the data for this sample was reviewed in FACTRAK</small>	COMPLIANCE <small>Note: This column indicates that the project folder for this sample was reviewed for compliance</small>
1	P72808-08	Leilehua HS	Resurface Mauka Driveway/PI	X	X
2	P92001-07	Sunset Beach ES	Building B – Replace A/C	X	X
3	P42806-08	Wilcox ES	Building F Reroof	X	X
4	P86815-08	Waipahu ES	Building B Reroof	X	X
5	Q91902-09	Castle HS	Room H2 FSC Improvements	X	X
6	P42806-08	Wilcox ES	Building F Reroof	X	X
7	P00789-06	Kilauea ES	Cafeteria	X	X
8	Q15804-08	Kealakehe ES	Hawai'i School District Temporary Facilities for 2008	X	X
9	P15012-10	Kahakai ES	Building E Replace Security Screens	X	X
10	P62002-07	Honokaa HS and IS	Rock Wall Repairs	X	X
11	P14001-07	Keaau HS	Football Field Maintenance	X	X
12	Q55801-08	Maui HS	Softball Stadium Improvements	X	X
13	Q55803-08	Paia ES	Cafeteria (Replace Due To Fire)	X	X
14	Z00221-05	Various	Softball Fields	X	X
15	P55003-10	Kahului ES	Campus Repair Facias	X	X
16	P53000-10	Makawao ES	Emergency Ceiling Repair		X
17	P00147-06	Lincoln ES	A/C Upgrades For Buildings F & G	X	X
18	Q72002-07	Leilehua HS	Football Field Improvements	X	X

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	DOE JOB NUMBER	SCHOOL NAME	PROJECT DESCRIPTION	FACTRAK INPUT	COMPLIANCE
19	P00042-06	Hokulani ES	Electrical System Upgrade	X	X
20	Q84007-07	Pearl City	Covered Walkway	X	X
21	Q71008-07	Webbing ES	Two Portable Classrooms	X	X
22	Q61013-10	Various	Central School District, Temporary Facilities for FY2010	X	X
23	P24038-10	Palolo ES	Reroof Covered Playcourt	X	X
24	Q23003-11	Royal ES	Drainage System At Front Lawn	X	X
25	P22014-07	Nuuanu ES	Electrical Upgrade	X	X
26	P81812-08	Kaimiloa ES	Building F Renovate Toilets	X	X
27	Q26901-09	Kaiser HS	ADA Transition Accessibility	X	X
28	Q22000-11	Stevenson MS	Multipurpose Educational Facilities	X	X
29	P00006-06	McKinley HS	Architectural Barrier Removal	X	X
30	Q00035-06	McKinley HS	Softball Stadium	X	X
31	P81009-07	Campbell HS	2007 Whole School Renovation	X	
32	P92010-07	Kahuku HS and IS	Building VV Repair Stadium Light Poles, Phase 2	X	X
33	P00694-06	Kaala ES	Building B Reroof	X	
34	P72008-07	Leilehua HS	Buildings B, D, E, F, & T – Reroof	X	X
35	Z00468-05	Lanakila ES	Building L, Replace A/C and Reroof	X	X
36	P00028-06	McKinley HS	New/Expand Girl's Athletic Locker Room	X	X
37	Q17001-07	Honaunau ES	Electrical Upgrade	X	X
38	P00925-06	Kawananakoa MS	Building B (Auditorium) Renovations	X	X

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Appendix 4 – Management Response to Phase I Assessment

Phase I Finding #	Phase I Finding Description	Status (Complete, In-Progress, Not Started)	If not "Complete," date Management will complete action plan
1	Facilities Development Branch does not have consolidated, up-to-date policies and procedures	In-Progress	August 31, 2013
2	Facilities Development Branch does not consistently retain project documents.	In-Progress	Tied to implementation of improved technology - FY2014.

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Phase I Finding #	Phase I Finding Description	Status (Complete, In-Progress, Not Started)	If not "Complete," date Management will complete action plan
3	Facilities Development Branch does not sufficiently leverage technology to streamline the planning and project management process.	In-Progress	Study underway with ESRI to look at current GIS state as well as to explore incorporation of various data sources into a data warehouse that will utilize both GIS and SharePoint. Interviews for this study scheduled for late August 2013. Realistic earliest implementation is beginning of FY2015.
4	A decentralized planning approach hinders Facilities Development Branch's ability to prioritize projects appropriately.	Complete	N/A
5	The Project Management Section does not execute R&M projects with the same priorities as those originally determined by the Planning Section.	Complete	N/A

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Phase I Finding #	Phase I Finding Description	Status (Complete, In-Progress, Not Started)	If not "Complete," date Management will complete action plan
6	The Planning Section develops and relies on unrealistic budgets that hamper prioritization efforts and lead to inefficiency in project execution.	In-Progress	In February 2013, Planning Section will develop an outline of what it wants its section structure to be and integrate its learning plan into the outline. Training will be complete by September 2013.
7	The consultant fee validation process is insufficient to ensure that FDB gets the best pricing from its consultants.	In-Progress	No timeframe discussed. Hinged upon improved use of FACTRAK as a database, which is tied to improved technology, which is part of a long-term goal.
8	Facilities Development Branch does not adequately track its assets across its campuses to aid in sufficiently forecasting when major repairs will be necessary.	In-Progress	FDB has selected a provider. Expects project to be completed in December 2013.

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Phase I Finding #	Phase I Finding Description	Status (Complete, In-Progress, Not Started)	If not "Complete," date Management will complete action plan
9	Legislative budgeting and funding cycles contribute to an inefficient professional services contracting and construction bidding process.	Complete	N/A
10	The Planning Section provides the Professional Services Selection Committee and Project Management Section underdeveloped scopes creating inefficiency in the procurement process.	Complete	N/A
11	Facilities Development Branch should consider formalizing policies to help ensure that consultants with no prior experience working with FDB have opportunities to be selected for projects.	In-Progress	FDB will begin implementing this approach in 2013.

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Phase I Finding #	Phase I Finding Description	Status (Complete, In-Progress, Not Started)	If not "Complete," date Management will complete action plan
12	Facilities Development Branch does not consistently capitalize on opportunities to improve contracting efficiencies for projects with similar scopes.	Complete	N/A
13	Facilities Development Branch's Project Coordinator project assignment process contributes to inefficient project execution.	Complete	N/A
14	Currently within the Project Control Section there are a number of vacancies.	Complete	N/A

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Phase I Finding #	Phase I Finding Description	Status (Complete, In-Progress, Not Started)	If not "Complete," date Management will complete action plan
15	Excessive levels of review and approval thresholds for professional service contracts prolong the professional service contract procurement process.	In-Progress	April 2013