
A Study of the State Capitol Renovation Project

A Report to the Governor and the Legislature of the State of Hawaii



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Chapter 1

Introduction

Section 126.1 of Act 252, Session Laws of Hawaii 1994, provided for the hiring of a private consultant selected by the Auditor to study cost containment measures for the state capitol renovation project. The study was to determine what costs the State still faced before the Capitol could again be occupied, whether any expenses could be minimized or eliminated, whether any agencies planned for Capitol occupancy could remain where they were, and any other cost containment recommendations.

The Office of the Auditor selected our office, H. Murray Hohns, Inc., as the consultant for the study through a request for proposal process. We are a Honolulu based consulting, mediation, and arbitration firm for the construction industry in the public and private sectors. Since 1987 we have provided consulting services to the State of Hawaii on a number of major projects. H. Murray Hohns, our principal, has had over 40 years of experience in project management, claims analysis, and cost control in the construction industry throughout the United States, including Hawaii.

Background

Shortly after Statehood in 1959, planning commenced for a new State Capitol. These efforts in 1960 recognized the need for the legislative and executive branches to have adequate facilities to replace their inappropriate use of Iolani Palace. A new Capitol also was needed to properly symbolize Hawaii's status as the fiftieth state.

Plans were completed in 1964 with ground breaking for construction taking place on November 10, 1965. The Capitol was dedicated on March 15, 1969. Its total cost was \$24,576,900. With a floor area of approximately 558,000 square feet, the Capitol housed the state Legislature and staff, offices of the governor, lieutenant governor, attorney general, and the Department of Budget and Finance.

The Capitol's exterior and interior design is noted for its dynamic reflection of Hawaii's natural island environment. However, even during its first decade of operation, a number of operational problems surfaced. The air conditioning system could not provide adequate temperature control with its cooling machinery located in the basement of the six-story building. Cooling was ineffective on the upper floors but excessive on the lower floors. The system was also incapable of handling the wide swings in demand load when the Legislature was in or out of session.

The reflecting pools, like the air conditioning, were designed to use on-site well water but could not overcome the effects of the brackish water. Visual, malodorous, and maintenance problems resulted. Finally, the Capitol's design could not accommodate changes such as the growth in the use of computers and the advances in telecommunications. Office space design was fixed rather than modular and could not easily be altered to meet changes in space utilization requirements.

As early as 1977, the Legislature started to appropriate funds to correct the Capitol's operational problems. However, corrective work to the building took on a different perspective as new regulations came into effect. The requirements with especial impact included the need to remove and/or control asbestos-containing materials (ACM) in buildings, update fire prevention requirements, and meet the equal access standards in the Uniform Federal Access Standards (now superseded by the federal Americans with Disabilities Act).

By 1991, work initiated by the Department of Accounting and General Services (DAGS) to improve just the air conditioning system had evolved into a major renovation of the state Capitol building. The renovation work included ACM abatement, air conditioning improvements and other renovation work, reconfiguration of office spaces, replacement of furniture and equipment, and other work necessary to correct health and safety deficiencies and to bring the building into compliance with the new accessibility codes. The Legislature had, by then, appropriated over \$47 million for the project. However, increases in work required for ACM abatement, renovation, and furniture and equipment brought costs to the current estimate of \$69.2 million. While the \$69.2 million has been appropriated, the Legislature remains concerned about additional costs and work and the need to identify and contain all remaining and future costs related to this project.

Objectives of the Study

1. Examine and assess the effectiveness of the Department of Accounting and General Services in the management of the capitol renovation project.
2. Develop a cost containment plan that identifies all remaining and related costs to complete the project and provide alternatives to minimize or eliminate future expenses related to the capitol renovation project.
3. Make recommendations based on the findings in these areas.

Scope and Methodology

The scope included examining the internal systems and activities of DAGS as they relate to the capitol renovation project and assessing the effectiveness with which the project was managed. Deficiencies in the systems and activities that may have contributed to the escalation of the project costs were identified to the extent possible.

We have developed a cost containment plan that identifies all remaining and related expenses to complete the project, including all relocation costs for the agencies that will move back to the Capitol. We have provided alternatives to minimize or eliminate future project related expenses.

We reviewed all of DAGS' document files pertaining to the capitol renovation project which were generated through November 1994. Those files filled 96 file boxes. We also conducted a number of site visits and interviewed selected DAGS officials and staff and other project personnel affiliated with the renovation project.

The study did not review issues relating to any asbestos litigation that may be connected with the project.

Under the terms of a contract executed by the Department of Accounting and General Services, the State Auditor, and H. Murray Hohns, Inc., the study was conducted between September 1994 and February 1995.

Chapter 2

The Capitol Asbestos and Renovation Project

In this chapter we review the history of the asbestos and renovation repair work for the State Capitol. We then assess the status of the work and project future costs and work necessary to complete the renovation project.

Summary of Findings

1. The contract awarded to remove asbestos containing material (ACM) was based on studies that did not adequately identify the extent of the asbestos problem in the building. This resulted in excessive change orders once corrective action was underway and increased the cost of the original ACM contracts by 44 percent. We estimate that the State paid between \$300,000 to \$500,000 more for abatement work under change orders than it would have incurred under competitive bid.
2. The extent of the corrective work needed to remove the ACM resulted in opportunities for renovation work that had not been anticipated originally. These opportunities contributed to a lack of clear direction for the proposed work and substantial changes to the scope of the renovation work undertaken. We estimate that the State will spend \$1.5 to \$2.5 million more for renovation work instituted by change orders than it would have if the work had been bid competitively.
3. Our review of the project concludes that it will cost an additional \$2.5 million or a total of \$71.7 million to complete the capitol renovation project. This estimate is for work we find necessary to assure the efficient utilization of the Capitol given work which has already been instituted. This includes the reconfiguration of the building's interior and additional mechanical corrections. This work will delay the use of the Capitol until 1996.

Asbestos Problem Inadequately Scoped

Capitol renovations started as an air conditioning repair project and became a major asbestos removal, renovation, compliance and upgrading project. The air conditioning repair was quickly eclipsed by asbestos removal. Inadequate work on scoping the asbestos removal led to additional cost to the State.

Improvements to Capitol initiated; ACM's impact increases

As noted in chapter one, a number of operational problems surfaced with the Capitol building after it was completed in 1969. Air conditioning was one of the major mechanical systems with serious inadequacies. In April 1984, a study completed for the Department of Accounting and General Services (DAGS) by Darrow-Sawyer & Associates, Inc. (Darrow-Sawyer), a mechanical engineering consultant, estimated that it would cost \$1,326,000 to upgrade and correct existing deficiencies in the air conditioning. This study included the results of a one-day, 32-sample test for ACM performed on December 16, 1982. The study confirmed the presence of ACM in the Capitol. At that time, it was recommended that employees in the areas where ACM was found use respirators.

When the Capitol was built in the 1960s, use of ACM in construction was common. Clear health-related concerns of ACM surfaced in the 1970s and resulted in terminating the use of ACM in construction in 1978. The Darrow-Sawyer study was completed at a time when the full impact of ACM abatement was not clearly understood.

Thus when DAGS contracted with Darrow-Sawyer for additional planning and design work in 1986, correcting the air conditioning rather than ACM abatement was the focus of the design work. At that time Darrow-Sawyer projected a total project cost of \$8,371,000. However, both the cost and scope of work were soon overshadowed as the extent of ACM in the Capitol became better understood.

In 1986 DAGS contracted with Hall-Kimbrell Environmental Services (Hall-Kimbrell), a nationally recognized ACM abatement specialist, to perform a Prioritization Asbestos Assessment Study for the Capitol. Hall-Kimbrell significantly expanded the impact of ACM by pointing out that ACM when disturbed could release "friable" asbestos fibers into the air. Utilizing the results of a one-day survey of the Capitol, Hall-Kimbrell developed a schedule for ACM abatement according to seriousness of the ACM hazards found. Significantly, Hall-Kimbrell found *no* ACM in the House and department levels of the Capitol, i.e., the third and fourth floors. The projected cost to correct the problem ranged from \$2,160,00 to \$8,640,000. The wide range was due to the limited number of qualified ACM abatement contractors in Hawaii, which Hall-Kimbrell felt would affect contract bid prices. The proposed ACM abatement schedule created a strong opposition by occupants who would remain in the building during the abatement process. DAGS then delayed further work on the Capitol's ACM abatement, focusing instead on correcting the same problem with several other state buildings.

Integrated approach adopted

DAGS resumed the Capitol's ACM abatement efforts in 1988 as part of a larger approach. It contracted with a new consultant team led again by Hall-Kimbrell (Hall-Kimbrell team) to develop a broad schematic study

to update the Capitol. Architectural, mechanical, and electrical engineering consultants were included in the team. The Hall-Kimbrell team concluded that the ACM abatement, building renovation and associated upgrade work, should be done under one contract. More specific proposals to phase the project addressed concerns over building occupancy and parking during construction. The Hall-Kimbrell team estimated the project would cost \$20,140,000 for construction and another \$2,000,000 to deal with relocations needed to address the occupancy problems.

Additional problems identified

DAGS subsequently negotiated a contract with Robert C. Smelker Associates (Smelker) in 1988 to head the design plan work to implement the Hall-Kimbrell team recommendations. The recommendations at that time addressed the air conditioning, ACM abatement, and building compliance with the Uniform Federal Access Standards (UFAS) for equal access of the disabled. No major upgrade or alterations to the then existing space allocations were included in the scope. However, it soon became evident that the scope needed to be expanded significantly.

Smelker retained Hygienetics Pacific (Hygienetics) as a subconsultant to specifically address the ACM abatement issue. Hygienetics determined that ACM was far more widespread than had been previously recognized. Koa wall finishes had been installed over ACM plaster, and the carpets, drapes, and ceiling were found to contain friable asbestos. By July 1989, DAGS' estimate for the ACM abatement and construction had increased to \$36,616,790. At this point, several events occurred that substantially altered the approach and methods used to complete the proposed project.

In November 1989, Smelker asked that the design work contract be renegotiated to reflect the widening scope of work. However, DAGS also learned that Smelker was not paying consultant team members because of financial difficulties and technically was in default of its contract. DAGS also concluded that all occupants of the Capitol should be relocated during the renovation and abatement work. Work on the Capitol needed coordination with the completion of the new State Office Tower (SOT), where Capitol tenants could be relocated.

Finally, the logic of instituting substantial renovations to improve the functionality of the Capitol made more sense as the scope of the work continued to expand. Both the House and Senate submitted specific recommendations for proposed renovation measures that would improve the functionality and efficient use of the building. Since the ACM abatement would require major reconstruction of the Capitol anyway, it made sense to proceed with the additional renovations. DAGS estimated

that the total cost for ACM abatement and renovation based on the then available information was between \$56 and \$60 million. Completion of the project originally projected for 1992 was delayed to 1994.

ACM abatement becomes a separate project; ACM worsens

The potentially expanded scope of the project and the financial and performance problems being experienced by Smelker resulted in the decision to separate the renovation and ACM abatement work into two projects. DAGS cancelled Smelker's contract at the end of 1990 and proceeded to negotiate with Hygienetics to complete the ACM abatement specifications work. A separate design contract was then procured for the renovation work. In early 1991, DAGS completed contract negotiations with Hygienetics to complete the ACM abatement project specifications for an additional \$160,000.

Hygienetics completed the project specifications and DAGS issued a request for bids on October 31, 1991. DAGS projected that the bid for the construction portion of the ACM abatement project would be \$18,233,000 of the total projected cost of \$21,969,000. Six bids were received. Restec Contractors (Restec) of Redmond, Washington, submitted a low bid of \$8,199,890, or over \$10,000,000 less than estimated.

DAGS accepted Restec's bid and issued a Notice to Proceed from January 27, 1992. DAGS projected the work to be completed on January 21, 1993. Once the ACM abatement work was underway, access to those areas of the building was restricted to all but Restec for safety and health reasons. This restriction later affected other portions of the renovation work because design consultants and contractors were unable to verify design and work specifications based upon actual inspection of the building.

In October 1992, Restec found that an ACM joint compound had been used on all existing drywall partitions in the Capitol. It was decided that the existing drywall should be stripped from the walls as part of the abatement process. Problems with asbestos overspray were also found when the removal of the drywall began. In addition, much of the drywall had been glued to the soundboard behind it, both complicating and increasing the cost of the drywall removal. These findings continued to raise projected costs and delay the estimated completion date for the ACM abatement. DAGS' estimates for the ACM abatement project were adjusted on a monthly basis and rose to \$15,503,064 in February 1993.

Restec continued its work even with the discovery of additional ACM and officially finished on June 23, 1993, or about six months past the original projected completion date. During this period Restec's contract was adjusted via change work orders to reflect the additional work

needed. In total, the contract was adjusted from \$8,119,980 to \$11,707,781 or an increase of \$3,587,801. Restec's change orders totaled 44 percent over the base contract. This is substantially more than what could reasonably be expected to be absorbed in the original project framework. Change order work generally includes higher mark-ups than those included in an original contract. We estimate that the State incurred \$300,000 to \$500,000 of additional costs to the original bid proposal as a result of work authorizations issued in change orders to Restec. DAGS reported, in March 1994, that a total of approximately \$15,199,000 would be expended on the ACM abatement project. A summary of the proposed and actual ACM expenditures is shown in Exhibit 2.1. The sole remaining, proposed expenditure is \$262,000 for works of art to be charged to ACM abatement. As of November 1994, DAGS expected that expenditures would total \$400,000 less than expected in March 1994.

Exhibit 2.1
Comparison of Proposed and Actual Expenditure for ACM Abatement Project

	At Start Jan. 29, 1991	Pre Bid June 6, 1991	Post Bid Jan. 8, 1992	Final	Cash Dsbrs. to Nov. 30, 1994
DESIGN					
A. Consultant	\$ 1,210,000	\$ 1,210,000	\$ 1,400,000	\$ 1,285,672	\$ 1,099,093
B. Staff Svc	40,000	104,000	85,000	70,092	50,000*
Design Total	\$ 1,250,000	\$ 1,314,000	\$ 1,485,000	\$ 1,355,764	\$ 1,149,093
CONSTRUCTION					
A. Base Bid	9,443,000	18,233,000	8,119,980	8,119,980	8,119,980
B. Extras	260,000	450,000	568,395	3,711,970	3,586,384
C. Consult. Svc	390,000	1,650,000	2,500,000	1,665,742	1,621,195
D. Staff Svc	42,000	60,000	60,625	82,718	63,000*
Const. Total	10,135,000	20,393,000	11,249,000	13,580,410	13,390,559
WORKS OF ART ¹	101,350	262,000	262,000	262,000	
TOTAL	\$ 11,486,350	\$ 21,969,000	\$ 12,996,000	\$ 15,198,174	\$ 14,539,652

*Subject to adjustment.

1. Works of art expense will be incurred at completion of project.

ACM cost to state

We conclude that the ACM abatement project incurred significant cost increases and time delays because the extent of the problem was not adequately identified upfront. The 1984 initial Hall-Kimbrell ACM assessment was inadequate. For example, based upon a single day's review of the entire Capitol, Hall-Kimbrell concluded that ACM did not exist on two floors of the Capitol. This was subsequently found to be in error. However, this is based upon our assessment in 1994. We understand that some of the inadequacies may be attributed to the evolving state of the technology for ACM abatement. For example, delays due to discussions on whether the building should be occupied during ACM abatement may reflect the lack of clarity at that time over ACM abatement risks.

It is not clear whether the failure to detect all ACM initially was the result of error by the consultant or simply due to unforeseen changes in conditions.

The final cost of the ACM abatement project is projected to be \$14,801,852 including \$262,000 for works of art. This is still \$7,167,148 less than the best cost estimate of \$21,969,000 which DAGS projected in 1988 for ACM abatement work.

Renovation Expands Project Scope Considerably

Renovation of the Capitol also evolved from the air conditioning repair project. As originally planned, only the correction of mechanical problems and replacement of disturbed ACM surfaces were intended. However as the scope and magnitude of ACM abatement increased, so did the logic of making renovations to the Capitol.

Capitalizing on the opportunity presented by the added ACM removal meant many more viewpoints to incorporate in scoping and design of the work. This resulted in a major change of direction for the renovation project as the work proceeded. Had the change orders that were given to the contractor been bid competitively instead, the cost of the renovation project would have been \$1.5 million to \$2.5 million less.

Developing renovation cost estimates

The Capitol had functional as well as mechanical problems. Office space configuration was fixed and some spaces were not usable. Utilization of other office areas was inefficient and could not be adapted to meet computer and telecommunication requirements. The ACM abatement project grew in late 1992 to require removal of interior walls and other building materials and it made sense to consider reconfiguration in conjunction with the abatement work. Functional improvements would eventually be required anyway and undertaking renovation in this project would save the cost of removing walls and reconfiguring the office space again in the future.

With the cancellation of Smelker's contract in late 1990, DAGS split the project into an ACM abatement project and a renovation project. It then began the consultant selection process for the renovation of the Capitol. Subsequently, DAGS selected a joint venture team headed by Herbert Y. Matsumura & Associates, Inc. and Group 70, Limited, Inc. to complete the renovation design documents.

In the first half of 1991, the joint venture team instituted the "programming phase" of the design work, meeting with building occupants to identify alternative renovation strategies. The occupants identified such amenities as a cafeteria and women's showers, as well as the often repeated need to correct deficiencies such as the inadequate air conditioning and a leaking roof.

On June 26, 1991, the joint venture team submitted a formal report entitled *Conceptual Schemes*, the recommendations based on the programming work that had been done. Four options were included. Option A or the "status quo" option provided that repairs and/or replacement would be made to the air conditioning, the fourth floor roof, and items damaged during the ACM abatement or, otherwise damaged and worn. The existing light fixtures would be replaced by energy efficient fixtures and the building would be brought up to building code and Uniform Federal Access Standards (UFAS) requirements. Existing partitions would be repaired or replaced only if they were damaged by construction and all building occupants would return to the same office space. Ceilings would not be disturbed unless they contained ACM. DAGS decided that the existing draperies would remain.

The status quo option was estimated to cost \$64.3 million, including the ACM abatement. It did not involve any extensive renovation, and projected a completion/move-in date of August 1, 1994 if the project commenced by October 1, 1992.

In addition, the joint venture team presented electronic improvement, pool and accessible paving and granite floor recommendations together with other optional work identified as "enhancements" to the status quo. Several of these enhancements were based on recommendations contained in other studies on the Capitol. Various combinations of enhancements added to the status quo option would drive the estimates to a range from \$82,710,000 to \$87,595,000. For example, the \$82,710,000 option included the following:

Signage	\$ 660,000
Granite floor	5,100,000
Pool and accessible paving	3,100,000
Modular furniture with moving	3,750,000
Electronic enhancement	<u>5,800,000</u>
TOTAL ENHANCEMENTS	\$ 18,410,000
Base Projection (status quo)	<u>\$ 64,300,000</u>
TOTAL PROJECTED COST	<u>\$ 82,710,000</u>

Status quo option selected

Although the status quo option contained only very limited renovation work, it was selected by DAGS in August 1991. This decision was made with the knowledge of the governor, House, and Senate, though the House was the only party to confirm its understanding and consent in writing.

DAGS executed a contract with the joint venture team to complete all required design work for \$3,975,000. Renovation design work was to be based on the \$42.4 million construction cost estimate with completion of the design targeted for April 15, 1992. Furnishings and equipment costs, estimated at \$3,750,000, were *not* included in this status quo cost estimate.

The joint venture team proceeded to develop preliminary/schematic design drawings. Actual site investigation for this phase of the design work was limited because the ACM abatement project was underway, and access to the Capitol was restricted. As of November 1991, a total of \$47.1 million had been appropriated of which \$34,375,000 was then expected to be available after completion of the ACM abatement project.

Cost estimate limitations suggested

Growing concern to contain the Capitol's renovation cost was voiced at the beginning of FY1992-93. The governor's State of the State address specifically referred to completing the Capitol's renovation with funds already appropriated—\$47.1 million. However, by March 1992, the projected renovation cost alone was already exceeding \$43 million. This had been offset somewhat by the bid for the ACM abatement work, which had come in at half of the expected \$20.4 million cost. Still, the entire project appeared to require more appropriations.

In response to these concerns, DAGS requested that the joint venture team split the status quo cost option into three parts; a base bid and two alternatives. The base bid was not to exceed \$30 million or the balance of the \$47.1 million appropriation less the ACM abatement and

renovation design contract costs. The base bid was to include the minimum work necessary to complete renovation and move all but the executive level occupants back into the Capitol in unfinished office space. The executive level would remain unfinished and not suitable for occupancy under this scenario.

Alternative one would make additional improvements to the base bid to improve habitability of the Capitol. Alternative two would include additional work that, when combined with the base and alternative one, would total all the renovation work originally proposed in the status quo option. DAGS estimated the cost of these options as:

Base Bid	\$ 29,858,000
Alternative 1	4,108,000
Alternative 2	<u>5,914,000</u>
ESTIMATED COST OF RENOVATION	<u>\$ 39,880,000</u>

The estimated cost of furniture and equipment for moving back into the Capitol was not included. While DAGS was able to develop an option that did not exceed \$30 million—i.e., the base bid above, leaving the Capitol with unfinished office spaces from the basement to the fourth floor and no habitability of the fifth floor was not an acceptable alternative.

Low bid creates additional options

A pre-bid project conference for interested contractors was held on May 15, 1992. By this time DAGS' projected cost for the base and two alternatives (i.e. the status quo option) had been reduced to \$38,516,483 based upon additional consultant design work. However, at the bid opening held on June 15, 1992, G. W. Murphy Construction, Co., Inc. (Murphy) submitted a low bid of \$29,052,000 for the entire renovation project. The bid for the status quo option was approximately \$9.5 million less than DAGS expected. DAGS awarded Murphy the contract on July 7, 1992. However, Murphy could not proceed until December 15, 1992 because the ACM abatement contract prohibited other contractors from the building while the abatement process was underway.

Although the renovation project had been awarded to Murphy on the basis of specifications for the status quo option, the scope of the renovation project continued to evolve. The lower than expected bids for both the ACM abatement and renovation projects gave DAGS more leeway to consider additional renovation work within existing appropriations. However, the discovery of additional ACM in the course of Restec's abatement work substantially changed the conditions of the project. For example, DAGS reported in December 1992 that additional ACM required the removal and replacement of all the interior

drywall. Murphy also found, as it started actual renovation work in the basement, that many of the partitions intended for re-use were not salvageable. With a gutted interior and needing to obtain new partitions, DAGS could more easily reconfigure interior spaces to meet occupant needs in an effective space utilization plan.

The joint venture team met with DAGS and building occupant representatives to develop a space allocation plan. DAGS presented a proposed plan to building occupants on May 5, 1993. While it appeared that all the building tenants agreed to the plan, only the House submitted a written agreement to the space allocation plan presented.

On July 22, 1993 the Senate and House notified DAGS that they were amenable to an alternative more suitable than the status quo option. As a result, DAGS submitted to the House and Senate on August 5, 1993, a proposed project cost based upon the additional renovation work proposed. The new cost projection provided by DAGS included:

Asbestos Removal	\$ 15,503,000
Construction	44,449,000
Space Planning	1,685,000
Furniture & Equipment	<u>4,700,000</u>
TOTAL PROJECTED COST	<u>\$ 66,337,000</u>

At that time the Legislature had already appropriated an additional \$2,518,000 to bring the total appropriations to \$56,037,000. However, this did not include funding for the furniture and equipment.

The new \$66.3 million cost figure reflected the rise in the total ACM project cost from the original June 1992 post bid award projection of \$12.9 million. DAGS indicated that an additional appropriation from the Legislature of \$5.6 million for FY1994-95 was needed for the project to stay on track. The Senate President and House Speaker consented to the proposal in writing on August 9 and August 6, 1993, respectively. This formally terminated the use of the status quo option as the renovation project's goal. However, despite the adoption of a plan, changes in the renovation project continued to occur as more ACM was found.

Additional problems with renovation found

As Murphy's renovation work continued, additional problems were found. The joint venture team was unable to verify the existing conditions with site visits while the ACM abatement was underway. As a result, discrepancies between shop drawings and actual conditions surfaced. For example, available chase and ceiling space to meet new mechanical and electrical requirements were found to be too small.

Moreover, only after Murphy was physically on the project site did it discover such problems as the roof drain piping system corroded beyond repair.

DAGS continued to revise its cost projections as the scope changed. It reported to the Legislature on March 30, 1994 that the new cost projections for both the ACM abatement and renovation projects would be:

	Estimated Project Cost	Funds Appropriated
Asbestos	\$ 15,199,000	\$ 15,199,000
Renovation & Remodeling	44,765,000	39,166,000
Space & Move Planning	1,865,000	1,865,000
Furniture & Equipment	2,404,000	
	<u>\$ 64,233,000</u>	<u>\$ 56,230,000</u>

Between March and August 1994, DAGS continued to refine an expenditure plan for the renovation project. As of August 9, 1994, the total amount allocated for the renovation project was \$45,452,335. Based on this amount, DAGS reported the following renovation expenditure plan:

Design		\$ 4,561,198
Construction		
Base Bid	\$ 29,052,000	
Contingency	8,641,369	
Consultant Services	2,559,743	
Staff	<u>380,715</u>	
Total Construction Cost		40,633,827
Works of Art		<u>257,310</u>
TOTAL RENOVATION COSTS		<u><u>\$ 45,452,335</u></u>

Modifications to the scope of work continued. Additional costs, delays, and changes in the schedule resulted. For example, Murphy had to reschedule the sequence of renovation work because of changes in the ACM abatement project and its concerns about meeting project deadlines. This may have reduced delay-related costs, but increased other costs due to scheduling adjustments. When difficulties were encountered because design plans did not match actual building conditions, further delays and additional costs were incurred to develop corrected plans.

Adjustments to the renovation project scope also resulted in a high number of change orders. Change orders entail mark-ups which are substantially higher than those included in the original bid. Murphy's change order mark-up was more than double the 4.68 percent mark-up it charged on the original bid.

As of November 30, 1994 DAGS had processed renovation project change orders totaling \$2,275,563. As of December 1, 1994, Murphy had another \$10,140,000 in pending change orders. All the required changes were not completed during this course of the study, so it is likely that additional changes will be required when further problems arise. Murphy has already received mark-ups of some \$220,000 on the 53 processed change orders and will receive substantial mark-up and reimbursement for overhead costs on the pending change orders. We presently project that Murphy's billings will exceed the \$37,693,639 earmarked for Murphy's construction portion of the renovation project. DAGS needs to assure that only a fair and reasonable adjustment is paid to Murphy and its subcontractors for increased overhead costs resulting from change orders and delays, and that care needs to be taken to prevent overpayments.

Exhibit 2.2 is a summary of the major categories of construction change orders identified during our fieldwork. Approximately \$7.7 million of the change order costs are due to changes necessitated by the discovery that the drywall joint compound contained ACM and needed to be removed. An additional \$2 million represents increased consultant costs due to the additional ACM discoveries, resulting in a total of almost \$10 million in cost due to the unforeseen problems related to additional ACM.

**Exhibit 2.2
Summary of Construction Change Order Costs (Rounded) as of November 1994**

Asbestos Removal Phase	
Overspray	\$ 1,500,000
Removal of Drywall Partitions	2,000,000
Renovation Contract	
Value Engineering	-100,000
Handling, Moving the Fish, Cleaning Pools	50,000
Fireproofing Senate & House Level	60,000
Additional Demolition	90,000
Replace Interior Storm (Roof Drain)	1,100,000
Ewa Garage Sprinklers	154,000
Put Back Reconfigured Walls and Interior Space Changes	5,700,000
Mechanical Equipment	200,000
Contractor's Delay Costs	1,250,000

Additional Costs and Timetable for Occupancy

The Legislature, the executive branch, and the public are understandably and legitimately concerned about the total cost of the Capitol's ACM abatement and renovation thus far. However, additional expenditures appear to be necessary. These include changes needed to assure that the Capitol will function efficiently when re-occupied. They also include items which need replacement. Replacing some equipment after the building is re-occupied would result in a severe disruption, requiring another complete building shutdown. To elect not to incur the additional expense now would also result in higher costs and loss of productivity in the future. We therefore believe that the following additional costs should be incurred as part of the total capitol renovation.

Furniture and equipment estimated separately

Furniture and equipment (F&E) needed to refurbish the renovated office spaces is not included as part of the renovation costs. It was originally proposed in 1991 that the modular furniture installed in the State Office Tower (SOT) be moved to the Capitol when the renovation was completed. The projected cost for F&E was \$3,750,000 in 1991.

DAGS subsequently contracted with the joint venture team to develop an interior F&E design and oversee the refurbishment of the Capitol. Based upon the design plans prepared, the cost of F&E was estimated at \$5,700,000 in late 1992. In October 1993, this estimate rose to \$6,565,000, of which \$1,865,000 had already been appropriated. However, DAGS has continued to refine this estimate and subsequently lowered the cost projection. Current F&E costs will be approximately \$4,000,000.

Replace electrical switch gear

The renovation project originally rejected the suggestion that the electrical switch gear for the Capitol be replaced. The recommendation was again made in 1994. The electrical switch gear is 25 years old and insufficient to meet modern electricity demands. The manufacturer of the original equipment is no longer in business, and repair parts and fuses are expensive and not readily available. If the unit is not replaced now, any breakdown would require that the Capitol be vacated until a future replacement is installed. This could be very costly in terms of moneys expended, loss of staff productivity, and additional costs to relocate. Since the Capitol is presently vacant and installation of a new electrical switch gear is a matter of *when* to install and not *whether* to install, it makes more sense to replace the unit now, rather than wait until sometime in the future. The estimated cost of new electrical switch gear is \$2 million.

Pool cleaning and filtration system

The existing pool cleaning and filtration systems do not meet current rules and regulations. Failure to replace the equipment would mean that the pools cannot be put back in service. This would create a negative image for the renovated Capitol as well as a new problem of keeping the pool areas secure. Estimated cost to replace the cleaning and filtration system is \$350,000.

Additional signage and graphics

New and additional signage and graphics for the Capitol are needed as a result of the reconfiguration of space. Estimated cost is \$65,000.

Finish draperies also needed

Finish draperies are also needed as a result of the removal of the originals during ACM abatement. The draperies had been found to contain friable asbestos. The current projected cost is \$100,000.

Total project and recommended cost

If our recommendations for the additional items discussed above are accepted, these costs plus already-planned and already-incurred expenditures will total \$71.7 million. More specifically, the total for the additional items we recommend is \$2.5 million. These additional items are needed for the renovated Capitol to be a complete, functional building. The advantages of incurring these additional costs now outweigh the savings that would be realized by not incorporating them in the current renovation of the building.

The estimated total cost to complete the ACM abatement and renovation projects is identified in Exhibit 2.3.

Projected completion date

DAGS has formally announced a completion date of November 1995, which we are unable to substantiate. At the end of December 1994, there was no schedule which demonstrated that remaining work could be completed by the November 1995 target date. We understand that at the time that this report was being completed, DAGS requested Murphy to do a completion schedule. We have reviewed Murphy's earlier scheduling efforts and do not consider them adequate for the current situation.

We therefore conclude that it is not feasible to complete the remaining \$20 million in construction work in sufficient time to effectively equip the Capitol for the 1996 Session. Discussions are now taking place to determine if it may be possible to complete the work in phases to allow partial occupancy.

Exhibit 2.3
Total Projected Capitol ACM Abatement and
Renovation Costs as of November 1994

ACM ABATEMENT PROJECT		
Expended	\$ 14,539,852	
Works of Art	<u>262,000</u>	
Total ACM Project Costs		\$ 14,801,852
RENOVATION PROJECT		
Design		
Programming	\$ 287,327	
Design Consultants	4,300,000	
DAGS Costs	<u>273,198</u>	
Total for Design	\$ 4,860,525	
Construction		
Contractor Costs		
Base Bid	\$ 29,052,000	
Change Orders (CO)#1-53	2,275,563	
Pending CO's & F/A	8,000,000	
Future Changes	800,000	
Cost of Increased Duration	<u>1,250,000</u>	
Total Contractor Costs	\$ 41,377,563	
Other Construction Costs		
Consultants	\$ 3,600,000	
Staff Services	<u>300,000</u>	
Total Other Construction Costs	\$ 3,900,000	
Total Construction Costs	\$ 45,277,563	
Works of Art	260,010	
Furniture & Equipment and Space Planning	<u>4,000,000</u>	
TOTAL RENOVATION PROJECT COST		\$ 54,398,098
Additional Recommended Expenditures		
Electrical Switch Gear	\$ 2,000,000	
Pool Cleaning/Filtration	350,000	
Signage	65,000	
Draperies	<u>100,000</u>	
Total Additional Costs		\$ 2,515,000
TOTAL ACM AND RENOVATION COST (ROUNDED)		<u>\$ 71,700,000</u>

We have reflected on whether the State should consider two alternatives: (1) pay for acceleration costs to try to achieve the November 1995 completion goal; or (2) attempt to occupy the building in selected stages. We conclude that neither alternative would be fiscally prudent. There are still too many unknowns to commit another \$500,000 - \$1,000,000 for acceleration expenses. To occupy the building in stages may entail having the contractor work in other than the planned sequence. This may involve other costs, currently unknown.

Conclusion

ACM abatement and renovation of the Capitol represents a major undertaking that evolved in reaction to a series of events. The project was not a planned course of action. A summary of events is presented in Exhibit 2.4. Failure to identify the extent of the asbestos problem resulted in continual and costly adjustments to the ACM abatement contract. The decision to reconfigure the Capitol was made only after the full extent of the ACM abatement became known, rather than being planned upfront. This led to additional changes to the scope and estimated cost of the project. This has also led to the possibility that elements will be omitted from the renovation work that would otherwise have resulted in a fully functional, upgraded structure.

Recommendation

The most cost-effective approach to complete the capitol renovation project is to proceed with the replacements and final cost items to make the Capitol functional. These include new electrical switch gear, new pool cleaning and filtration system, and new signage, graphics and finish drapes. Omission of items at this point would result in short term savings, but much higher longer term costs. Additional funds necessary to complete this work should be appropriated.

Exhibit 2.4
 Summary Timeline of the Capitol Renovation Project
 From 1991

	'91	January	February	March	April	May	June	July	August	September	October	November	December
ASBESTOS	-----Hygienetics Pacific takes over for Smelker----- and finds more asbestos.						DAGS asks Governor's permission to bid asbestos removal contract with total removal cost at \$21,969,000.		Changes to contract delays bidding to October.		Bid of \$8,119,980 received; \$10,000,000 < estimated.		Contract awarded to low bidder, Restec. Projected total cost is now \$12,996,000.
		Estimated asbestos removal cost; \$11,326,350.			Estimated cost is \$21,808,350.								
RENOVATION	--Group 70, H. Matsumura joint venture-- selected as lead designer.			--Program studies to decide work scope.--			--Admin. and Legis. choose Option A - -- status quo. Cost \$64.3 million which includes asbestos removal but not furniture and equipment.		----Schem. design stages---- completed. Costs for renovation side (\$42.5 million) still on track.		--Prefinal design continues.-- Renovation continues to track \$42 and \$43 million cost.		

	'92	January	February	March	April	May	June	July	August	September	October	November	December
--	-----	---------	----------	-------	-------	-----	------	------	--------	-----------	---------	----------	----------

ASBESTOS

Work to start in late January. Held back for month by court challenge from third bidder.

Work starts in late February.

-----Contractor uncovers large quantities of unforeseen asbestos overspray. About \$1.5 million in additional work required.-----

ACM discovered in existing interior partition wall joint material.

Studies conclude ACM dry wall surface must be removed at cost of \$3.1 million, including wall put back.

RENOVATION

--Legislature and Governor decide to try-- to hold costs to \$47 million then appropriated.

-----Project cut to return occupants to unfinished loft---- space. Estimated projected renovation project cost of \$38,516,283.

6/15 Bids opened. The bid for entire status quo option is \$29,052,000, or \$1 million below the loft space work estimate.

Contract awarded for status quo option. Renovation estimated to cost \$38,366,483. Asbestos portion seen as \$13 million for \$51.5 million total project cost.

----Contractor waits for building permit and for asbestos contractor---- to get out of way.

	'93	January	February	March	April	May	June	July	August	September	October	November	December
--	-----	---------	----------	-------	-------	-----	------	------	--------	-----------	---------	----------	----------

ASBESTOS

---Contractor runs into glued wallboard.---
 Remaining partition frame work deemed
 insufficient to repair.

Asbestos
 complete.
 Drywall
 removal cost
 approximately
 \$2.0 million.
 Final asbestos
 removal
 project cost:
 \$14,801,852.*

-----Drywall removal.-----

-----Construction proceeds slowly pending redesign required by removal of drywall partitions.-----

RENOVATION

Construction
 work starts
 on limited
 basis.

---Study and decisions on how to proceed on interior wall put back.--- -----Redesign for new interior partitions.-----

8/5 - Both
 Houses agree
 to abandon
 status quo
 option. Job
 to cost more
 and require
 another year.
 1996 Session
 to open in
 renovated
 spaces.

*\$113,000 attributed to DAGS' staff services is subject to adjustment. Includes \$262,000 for works of art that will be expended at completion of project.

'94 January February March April May June July August September October November December

RENOVATION

-----Construction moves ahead. Momentum builds.-----?
 -----Redesign.-----

Final completion now well into 1996.

FINAL COST

ASBESTOS:	\$14.8 million
RENOVATION:	50.4 million
FURNITURE AND EQUIPMENT:	<u>4.0 million</u>
TOTAL:	\$69.2 million
RECOMMENDED ADDITIONAL ITEMS:	\$2.5 million
TOTAL PROJECTED WITH ADDITIONAL:	\$71.7 million

Chapter 3

Conclusions and Recommendations for DAGS' Management of State Construction Programs

In this chapter we offer some conclusions and recommendations pertaining to the management of the capitol renovation project that we believe will help to improve DAGS' management of the State construction program.

Conclusions

The capitol asbestos abatement and renovation project was a complex project that grew from a project to fix a mechanical problem—air conditioning. The expansion in project scope and cost was not entirely within the State's control. Federal, state, and county requirements of several kinds governed the minimums that the State had to incorporate. Despite the public's and government officials' legitimate concerns about the eventual cost, it is our belief that the expenditures were justified and that DAGS' project management was acceptable under the circumstances. We conclude this report with overall recommendations from our file review, our interviews, and our experience in construction industry management.

Project costs in line

We selected the June 1991 projected cost of the \$64.3 million original status quo option as the basis upon which to evaluate the total cost of the ACM abatement and renovation projects. Although subsequent planning efforts were made to manage the project within a \$47 million limit, we found that this was not a realistic option. The \$47 million limit would have resulted in unfinished loft space in the Capitol. In addition, the low bids actually received for the ACM abatement and renovation portions of the project made it impractical not to proceed with the more complete renovation.

As shown in Exhibit 3.1, the final costs (without our recommended items) are very close to the original 1991 projected costs. There is less than two percent variance between the projected and final costs for the work originally planned and the furniture and equipment needs. Adding the additional work which we believe should also be performed increases the variance to only five percent. These variance levels are within commonly accepted industry ranges.

Exhibit 3.1
Comparison of Projected Costs vs. Final Costs

Projected Costs - June, 1991		Final Costs - 1996	
Asbestos Removal	\$ 21.2	Asbestos Base Contracts	\$ 11.3
		Overspray Removal	1.5
		ACM Partitions Removal	2.0
Renovation Work	43.1	Renovation Base Contracts	38.4
		Unforeseen Work and Normal Changes	3.0
		Redesign Due to ACM Found in Partitions	7.7
		Cost of Additional Year	1.3
Total Project Cost	\$ 64.3 mil.		\$ 65.2 mil.
Furniture & Equipment	<u>3.75</u>	Furniture & Equipment	<u>4.0</u>
Total Cost including Furniture & Equipment	\$ 68.1 mil.		\$ 69.2 mil.
		Other Additional Work Which Must Be Done Now	2.5
Total	\$ 68.1 mil.	Total	\$ 71.7 mil.

However, we note that while the total projected and final costs are close, there is significant variation between individual cost components. For example, the final ACM abatement cost of \$21.2 million was 30 percent less than originally projected. Similarly, the renovation base contract was also far less than DAGS expected. The closeness of final cost to projected cost is actually due to the additions of unforeseen expenses that were incurred as the project got underway. Based on this information, we concluded that cost was not an appropriate measure with which to evaluate DAGS' performance.

***Project management
adequate***

The capitol asbestos abatement and renovation project was the responsibility of the Public Works Division of DAGS. The division is made up of seven branches. Four of the branches—Planning, Project Management, Staff Services and Inspection—all report to the State Public Works Engineer and have interacted closely with each other on the capitol project. This division is a major service division whose charge is to assist other state departments with planning, design, construction and maintenance of facilities. The division is headed by the State Public Works Engineer.

We believe DAGS' management of this project was more than acceptable given its logistical restrictions. Our file review shows that staff understood and led the design stages on both parts of the project. The design project manager and others with oversight freely and often criticized the consultants and attempted to hold the consultants to high standards and timely performance. The capitol project is a relatively complex one and we believe that the project manager demonstrated good organization, decisionmaking and management skills in coordinating this as one of six projects being managed concurrently.

DAGS Inspection Branch personnel also followed and monitored the work in the field at acceptable levels. We found that DAGS responded in a timely manner, providing answers and decisions that kept the work advancing. The section head of the Inspection Branch, who is in charge of the capitol project, is also responsible for all DAGS projects in the western half of Oahu. There are also two office engineers and one field inspector from the Inspection Branch assigned to the capitol project. We found that all personnel were responsive in their management responsibilities given the multiple projects assigned to them.

However, we believe that the State would be better served on large projects if some restructuring of assignments took place. This could include assigning one manager to its very large projects from inception to completion, with adequate clerical support, to keep accurate track of progress being made.

***Established
procedures require
changes***

The State's capital improvement program (CIP) is governed by funding and contracting procedures that have been in place for many years. DAGS is the expending agency for the majority of the State's building programs. But it is subject to the control requirements of the governor and the Department of Budget and Finance (B&F).

Before a CIP budget is appropriated by the Legislature and signed into law, a user agency, such as the Department of Education (DOE), will submit a list of proposed projects to the governor who will then decide what can be done that year. After the budget is passed and becomes law, when DOE wishes to activate a particular project, it asks DAGS to

initiate the work. DAGS develops a preliminary proposal and submits it to the governor for approval through B&F. When B&F advises DAGS of the governor's approval to record the allotment of funds, the selected consultant can be notified. While the allotment advice is in process, DAGS undertakes the consultant selection.

The new procurement law requires that DAGS advertise a Request for Proposals to begin the consultant selection process. When the interested consultants respond, an expert committee is formed to review the proposals and select the best six potential candidates. After all six are interviewed, a short list of the three best suited for the work is sent to the comptroller who will rank the three firms and send the rankings back to the selecting panel who then negotiates a price with the number one selection. If an agreeable price cannot be negotiated, then the panel will try to finalize an agreement with the second consultant, followed by the third.

Once a price is negotiated, a contract is prepared and is sent to the selected consultant for review and execution. When executed and returned, the contract is sent to the Attorney General who approves the contract's form. The contract is also forwarded to DAGS' Administrative Services Office to certify that the funds are available. Upon completion of this process, the contract is forwarded to the comptroller to execute on behalf of the State.

It takes at least four to six months to reach the preliminary design phase for the project. This time has recently been increased by Executive Memo 95-D1. When the design is complete, the construction phase of the project is then competitively bid. The minimum time to get a project from final plans to bid opening is six months.

At present, the construction award process, from opening of the bid to issuance of a notice to proceed, may take up to six months to complete. The current contract process requires that the attorney general review all construction contracts. This is time-consuming and repetitive.

The supervisor of the attorney general's State Claims Unit is working with DAGS to conform the Standard Form Contract Conditions to the new code, to DAGS' practices, and to common law practices. When this is done, unless a contract deviates in some significant way from the final forms, the attorney general's review of every contract should be eliminated.

The agency that requests a CIP project also approves the original design and later changes. B&F has review and approval authority. The attorney general's office reviews and approves project contracts. DAGS responds to the decisions of these agencies and does not set cost or time limits. DAGS' authority to control the scope of work, costs, and time

frames is unclear. The State needs to give attention to the many steps in its procurement procedures and the relative authority assigned at each step of the process. We hope the above comments will bring review and revision to the current procedures.

Recommendations

During the course of this review we examined DAGS' project management. The review included an examination of the file records relating to the capitol ACM abatement and renovation project. Based on the file reviews, interviews with appropriate officials and our experience in construction administration, the following recommendations were developed.

1. To improve project performance, DAGS should consider changing the contracts with design consultants and construction contractors to include the following:
 - a. Mandatory periodic cost and time schedules with type and detail of schedules.
 - b. Method and basis of resolving extended overhead disputes.
 - c. A standard policy on Consultant Professional Liability Insurance (PLI). The policy should specify the amount of insurance, deductible limits, whether subconsultants are to carry PLI, and if so, the amount, whether to name the State as an additional insured, a provision for Project Errors and Omissions Insurance if appropriate, term of the policy, and whether defense costs should be included in the face amount of the policy.
2. The procurement process should be examined to see if projects can be processed more expeditiously.
3. To improve the administration during the construction phase of projects, DAGS should consider the following:
 - a. On large projects, use a full time 'clerk of the works' to accurately log work progress, administer forced account work, and ensure quality of work.
 - b. Assign one project manager to oversee the project from beginning to end.
 - c. Utilize consultants as project managers when appropriate.
 - d. Require periodic project reports.

4. During the construction phase the only design changes permitted should be those required by unforeseeable conditions and designer errors and omissions. The consultant should be held responsible for the changes caused by consultant errors and omissions.
5. Decision makers involved in the project should be required to make approvals at appropriate stages that may be changed only under extreme circumstances.
6. To ensure that time schedules are correctly used as a tool for negotiating extended overhead payments, assign staffing needs and coordinate move-in dates, DAGS' contracts should specify the frequency, detail and type of time schedules that the contractors must provide to DAGS.
7. DAGS should keep daily reports in adequate detail and adopt a standard format of their major projects and weekly reports on smaller projects. This would permit DAGS to currently reconstruct a detailed history of the progress in the field for any of its projects. Additional resources may be necessary to implement this recommendation.
8. DAGS should use Dispute Review Boards (DRB) on its larger construction contracts. The provision of experienced neutrals to guide the project through difficult situations has been very helpful in other jurisdictions, and the concept and results of DRBs has been well received for some time on a national scale.
9. DAGS should adopt a policy of inviting various experts in appropriate different fields to instruct DAGS' staff on state-of-the-art developments in design and construction policies. DAGS should instruct its Inspection Branch staff as to the changes in the contract General Conditions when they have been adopted.
10. With respect to renovation projects we recommend that DAGS assure that sufficient funds, time, and access are provided to ensure that existing conditions are adequately identified for any renovation project. Adequate identification includes determining: the presence of lead, underground contamination, asbestos and any other substances recognized as harmful and require abatement. Testing of all drywall joints on existing buildings built prior to 1978 for the presence of ACM should be mandatory on any renovation project. DAGS should also establish and enforce a state-wide policy on occupancy during abatement work.

Response of the Affected Agency

Comments on Agency Response

The State Auditor transmitted a draft of this report to the Department of Accounting and General Services on March 31, 1995. A copy of the transmittal letter to the Department of Accounting and General Services is included as Attachment 1. The response from the Department of Accounting and General Services is included as Attachment 2.

The Department of Accounting and General Services responded that it found the report to be thorough, objective and an accurate portrayal of the capitol renovation project. The department provided further information to clarify a number of points in the report, a number of which were incorporated in the report. The department also provided additional information on actions underway with respect to several of the recommendations in the final chapter of the report.

STATE OF HAWAII
OFFICE OF THE AUDITOR
465 S. King Street, Room 500
Honolulu, Hawaii 96813-2917



MARION M. HIGA
State Auditor
(808) 587-0300
FAX: (808) 587-0330

March 31, 1995

COPY

The Honorable Eugene S. Imai
State Comptroller
Department of Accounting and General Services
Kalanimoku Building
1151 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Imai:

Enclosed for your information are three copies, numbered 6 to 8 of our draft report, *A Study of the State Capitol Renovation Project*. We ask that you telephone us by Monday, April 3, 1995, on whether or not you intend to comment on our recommendations. If you wish your comments to be included in the report, please submit them no later than Wednesday, April 5, 1995.

The Governor and presiding officers of the two houses of the Legislature have also been provided copies of this draft report.

Since this report is not in final form and changes may be made to it, access to the report should be restricted to those assisting you in preparing your response. Public release of the report will be made solely by our office and only after the report is published in its final form.

Sincerely,

Marion M. Higa
State Auditor

Enclosures

BENJAMIN J. CAYETANO
~~JOHN W. WATSON~~
GOVERNOR



EUGENE S. IMAI
~~ROBERT XXXXXXXX~~
COMPTROLLER
MARY PATRICIA WATERHOUSE
~~XXXXXXXXXXXX~~
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 119, HONOLULU, HAWAII 96810

LETTER NO. PM-1164.5

APR 6 1995

RECEIVED

APR 6 11 15 AM '95
OFFICE OF THE AUDITOR
STATE OF HAWAII

Ms. Marion Higa
State Auditor
Office of the State Auditor
465 South King Street, Room 500
Honolulu, Hawaii 96813

Dear Ms. Higa:

SUBJECT: A Study of the State Capitol Renovation Project

Thank you for allowing us to review the subject report. The report provides an accurate portrait of the project. However, we have the following remarks:

- A. P. 10 - We concur that the ACM abatement project incurred significant cost increases and time delays because the extent of the problem was not adequately identified up front.

The most significant cost increase to the ACM project resulted from the discovery of ACM in the joint compound in October 1992 (p. 8). At the time that the project was under design and even during construction, the joint compound was not a suspect material. Prior to construction, core samples were taken of the interior walls. Since the joint compound was found only on the surface of these samples, the test results were negative. However, when only the joint compound was removed from the surface and tested, it tested positive. Thus, DAGS advanced the state of ACM technology which, unfortunately, increased the cost of the project.

In order to minimize the ACM mitigation cost for the joint compound, DAGS first conducted a test to determine if it

would be possible to cut and sand the existing wall and keep the release of asbestos fibers within acceptable limits. The fiber count was much higher than the safe limits. DAGS then solicited quotes from both Restec and G. W. Murphy for the removal of the walls. Restec submitted the lowest quote and the best schedule and was awarded a change order for the work.

- B. P. 12 - Status quo option selected by DAGS in August 1991. Although DAGS was aware that the Department of Attorney General would not return to the building, DAGS decided on the status quo option in order to complete the plans and bid the project.
- C. P. 14 - On July 22, 1993, the Senate and House notified DAGS that they were amenable to an alternative more suitable than the status quo option. This agreement provided the Legislature with additional space and built out all of the spaces for the actual use. Although this agreement provided for better utilization of the spaces, it required substantial redesign of the basement and fourth floors and minor redesign of the second and third floors. These changes added significant delays and costs to the project.
- D. P. 17 - Furniture and equipment. The F&E plan was developed by the joint venture group. Omni Group, Inc. is contracted to coordinate the move activities and other related items.
- E. P. 17 - Replace Electrical Switch Gear.
 - 1. Due to budget constraints, minor modifications and retrofitting are being done on the existing switch gear.
 - 2. The electrical switch gear is sufficient to meet the electrical demands. The additional load will not be significant.

3. Although the switch gear manufacturer is no longer in business, repair parts and fuses are available. However, these parts are not readily available and are expensive.
- F. P. 18 - Pool cleaning and filtration system. DAGS is processing a permit application for the pool cleaning. A project will be initiated to determine the requirements for a pool cleaning and filtration system.
- G. P. 18 - Additional signage and graphics. This work will be considered if funds are available.
- H. P. 18 - Finish draperies. This work will be added to the F&E project.
- I. P. 18 - Projected completion date. DAGS and the contractor are committed to completing the move to the Capitol by the end of November 1995. This will require early release of floors by the contractor so that furniture and equipment can be installed. It may also mean that work on certain non-critical items, such as the ceiling pans over the pool, may continue when the building is occupied. It may also require acceleration in certain areas such as electrical.
- J. P. 19 - Project Costs.
1. The project costs are still being negotiated.
 2. The furniture and equipment and space planning projects funds have been appropriated and additional funding is not required.
- K. P. 29 - Recommendations.
1. DAGS has established an ad hoc committee to revise the general conditions for construction contracts. These

recommendations will be considered by the committee.

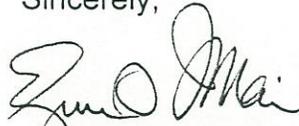
2. DAGS is examining the entire planning, design and construction process for CIP and repair and maintenance projects to speed the process and lower construction costs.
3. We agree that the Inspection Branch requires additional staff. However, the number of authorized positions and the authorized funds for staff are limited. Each branch as well as the Public Works Division prepares monthly status reports.
4. Frequently changes during construction are requested by the users. If these changes are justified and reasonable they are incorporated in the project. The consultant is held liable for any work that needs to be redone because of his error or omission.
5. We concur with this recommendation.
6. As noted in item 1, the ad hoc committee will consider this recommendation for larger projects.
7. We concur with this recommendation.
8. We will consider this recommendation.
9. DAGS Quality Control Branch is responsible for keeping the division current with the state of the art, updating the guide specifications and providing training for the other branches. Due to limited funding and staffing, DAGS has concentrated in the areas of roofing, painting, ACM, lead paint removal, locksets and fire alarm systems.

Ms. Marion M. Higa
Letter No. PM-1164.5
Page 5

10. We concur with this recommendation.

We would like to thank your consultant, H. Murray Hones, for a very thorough study of the project and DAGS operations and for a very objective report.

Sincerely,

A handwritten signature in black ink, appearing to read "Eugene S. Imai". The signature is fluid and cursive, with the first name "Eugene" and last name "Imai" clearly distinguishable.

EUGENE S. IMAI
State Comptroller

