CONTENTS

Executive Summary .............................................................................................................. 1

Introduction .......................................................................................................................... 2
  Background .......................................................................................................................... 2
  Purpose ................................................................................................................................ 4
  Scope and Methodology ...................................................................................................... 5

OBSERVATIONS, RECOMMENDATIONS, AND CAMPUS RESPONSES

Pre-Construction and Bid Process ....................................................................................... 6

Change Order Administration .............................................................................................. 6
  Approval ............................................................................................................................... 6
  Labor Rates and Burden ..................................................................................................... 7

Project Completion and Closeout ......................................................................................... 8
APPENDICES

APPENDIX A: Personnel Contacted
APPENDIX B: Campus Response
APPENDIX C: Chancellor’s Acceptance

ABBREVIATIONS

AVP  Associate Vice President
BOT  Board of Trustees
CPDC Capital Planning, Design and Construction
CRB  Certification Review Board
CSU  California State University
CSULB California State University, Long Beach
DVBE Disabled Veteran Business Enterprise
EO   Executive Order
ICSUAM Integrated California State University Administrative Manual
LEED Leadership in Energy and Environmental Design
OUA  Office of the University Auditor
PHRB Peterson Hall 3 Replacement Building
PPFM Physical Plant and Facilities Management
EXECUTIVE SUMMARY

At its January 2012 meeting, the Board of Trustees directed the Office of the University Auditor (OUA) to review construction activity. Construction auditing had been performed by KPMG since fiscal year 1997/98 with coordination from the OUA. In fiscal year 2008/09, OUA staff began performing construction audits.

We visited the California State University, Long Beach campus and the offices of the design-builder and selected subcontractors from November 26, 2012, through December 21, 2012, and audited the Peterson Hall 3 Replacement Building (PHRB) project focusing on the construction management policies and procedures and internal controls and processes in effect at that time.

In our opinion, the fiscal, operational, and administrative controls in effect for the PHRB project were sufficient to meet the overall audit objective stated in the “Purpose” section of this report. However, we did identify other reportable weaknesses that are described in the executive summary and body of this report.

As a result of changing conditions and the degree of compliance with procedures, the effectiveness of controls changes over time. Specific limitations that may hinder the effectiveness of an otherwise adequate system of controls include, but are not limited to, resource constraints, faulty judgments, unintentional errors, circumvention by collusion, and management overrides. Establishing controls that would prevent all these limitations would not be cost-effective; moreover, an audit may not always detect these limitations.

The following summary provides management with an overview of conditions requiring attention. Areas of review not mentioned in this section were found to be satisfactory. Numbers in brackets [ ] refer to page numbers in the report.

PRE-CONSTRUCTION AND BID PROCESS [6]

The campus did not obtain Disabled Veteran Business Enterprise participation documentation from the design-builder showing evidence that the participation goal was met or a good-faith effort was made to reach the goal.

CHANGE ORDER ADMINISTRATION [6]

Change orders were not always approved according to authorized dollar thresholds. In addition, inflated labor rates and mathematical errors on change orders resulted in an overcharge to the campus of $3,727.

PROJECT COMPLETION AND CLOSEOUT [8]

The campus filed the Notice of Completion for the PHRB four months before finalizing the certification of completion.
INTRODUCTION

BACKGROUND

In May 2005, the Board of Trustees (BOT) approved schematic plans for the California State University, Long Beach (CSULB) Peterson Hall 3 Replacement Building (PHRB) project at a cost of $78,860,000. Preliminary planning for this project was approved in fiscal year 2004/05, followed by working drawings in fiscal year 2005/06. The original project cost estimate was based on a study conducted in April 2004. Due to significant cost escalation since that time, a budget augmentation of $10,449,000 was approved in fiscal year 2007/08. The project, as well as group II equipment worth $4,828,000, was funded by the Higher Education Capital Outlay Bond Fund of 2006.

In March 2007, the campus solicited project bids and selected Hunt Construction Group Inc. as the design-builder. The campus executed a design and construction agreement with Hunt Construction Group Inc. on January 22, 2008, at a cost of $86,820,118, and issued the Notice to Proceed on February 4, 2008, with a completion date of March 17, 2011. The campus took beneficial occupancy on March 28, 2011, and filed the Notice of Completion on May 17, 2011.

The PHRB is a 164,500-square-foot four-level complex for the College of Natural Sciences and Mathematics and houses the biology, chemistry, geology, physics, and science education departments. The state-of-the-art facility includes a marine biology lab featuring a shark lab with built-in seawater supply and tanks for housing marine animals, six lecture halls that allow for teaching or sophisticated presentations, and a dedicated rooftop with an astronomy platform and three large greenhouses. The project achieved a Leadership in Energy and Environmental Design (LEED) silver rating. LEED is a third-party certification program begun in 1999 by the United States Green Building Council and is a nationally accepted benchmark for the sustainable “green” design, construction, and operation of buildings.

The CSULB campus managed the PHRB project, and it chose the Design-Build delivery method. In this method, the design and construction aspects are contracted with a single design-builder who has full responsibility for finalizing and implementing a design that meets or exceeds California State University’s (CSU) performance expectations. The design-build entity is responsible for the adequacy of design and any construction defects, which allows the CSU to avoid these types of claims and limits errors and omissions change orders. Further, the design-build approach shortens project completion by overlapping the design and construction project phases. This approach also minimizes the university’s need to schedule and coordinate the overall project, although clear specifications of CSU performance requirements and high-quality inspection of work in progress are required to fully realize the benefits of this approach.

Executive Order (EO) 672, Delegation of Capital Outlay Management Authority and Responsibility, dated July 25, 1997, delegates to campus presidents the authority to manage directly state and non-state funded capital outlay projects. The chancellor’s office issues this delegated authority to the campus subject to its compliance with the capital outlay certification procedure. To comply, the campus submits a request for Delegation of Capital Outlay Management Authority to the Certification Review Board (CRB) for review. Then the executive vice chancellor and chief financial officer in the chancellor’s office must approve the request. The campus president is responsible for ensuring that he or she
exercises delegated authority in compliance with applicable statutes, regulations, and policies of the BOT; the campus manages capital projects via a process consistent with the provisions of the Integrated California State University Administrative Manual (ICSUAM); and the campus has in place appropriate internal controls and processes to ensure that responsibilities are carried out in a manner consistent with the campus capital outlay management plan submitted with the request for delegated authority.

The certification procedure required by EO 672 includes submission of a capital outlay management plan, which defines the campus organizational and operational structure and expenditure authority, and serves as the campus policies and procedures for the administration of construction activities. Updated plans are to be submitted when campus operational structure changes are made which impact the plan. Certification is continuous unless a Capital Planning, Design and Construction (CPDC) post-project performance review determines that problems were caused by campus negligence, in which case the CRB may recommend that the campus be placed on probation. The CRB may ultimately recommend that certification be withdrawn if identified operational/management deficiencies are not remedied.

For those campuses that are not certified, the chancellor’s office may execute a Memorandum of Delegation for a capital outlay project, which delegates administration, including construction management, to the campus. The CPDC construction management unit may also perform construction administration and management.

EO 666, Delegation of Professional Appointments Related to Capital Outlay Projects and Campus Physical Development, dated March 7, 1997, delegates the authority to each campus president or designee to make all professional appointments relative to capital outlay projects and campus physical development. Further, the campus president or designee is responsible for ensuring compliance with all applicable statutes and regulations, BOT policies, and ICSUAM guidelines; and the use of systemwide standardized architectural, engineering, and other professional appointment contract forms.

The ICSUAM, in part, contains an overview of all CPDC policies and procedures associated with the capital outlay process. ICSUAM §9700 through §9843, Construction Management for Public Works Contracts, describe the requirements for preparing and administering public works contracts under the provisions of Public Contract Code §10700 et seq. ICSUAM §9200 through §9212, Professional Services for Campus Development, describe the requirements for developing and administering professional services agreements with service providers such as architects and engineers and for testing services and project-related studies.

The CSU Construction Management Procedures Manual contains the CSU construction management policies and procedures that apply to a project, and each construction administrator, project manager, inspector of record, campus representative, and design professional is required to use this manual as appropriate during the construction administration of a project.
INTRODUCTION

PURPOSE

The overall audit objective was to ascertain the effectiveness of construction management policies and procedures and internal controls and processes related to the administration of construction activities and, specifically, the PHRB project.

Within the overall audit objective, specific goals included determining whether:

- Delegated authority to manage capital outlay projects exists, and the campus capital outlay management plan is current for campus-managed projects.

- Project development is in accordance with statutory and CSU policy requirements, including required BOT and CPDC approvals.

- Administration and management of the project provide effective internal controls and processes consistent with the campus capital outlay management plan and the ICSUAM.

- Professional appointments are in accordance with statutory requirements, BOT policy, and the ICSUAM; and systemwide standardized professional appointment contract forms are used, approved by the Office of General Counsel, and fully executed prior to performance of work.

- Extra services are appropriate, authorized, and separately tracked; and an evaluation is performed for each professional service provided.

- The bidding process is rigidly controlled, performed in accordance with statutory requirements and the ICSUAM, and incorporates the contract documents maintained on the CPDC website.

- Contract documents are complete, routed to the Office of General Counsel as appropriate, and timely executed; required contract bonds and insurance are received; and a Notice to Proceed is issued.

- Subcontractors are adequately monitored, and requests for subcontractor substitutions are handled in accordance with statutory requirements and the ICSUAM.

- Operational and administrative controls ensure maintenance of financial accountability and completion of the project within the approved scope, schedule, and budget.

- Contract and service agreement payments are adequately supported, appropriately approved, and timely paid; and retention is handled in accordance with statutory requirements and the ICSUAM.

- Group II equipment is properly managed and accounted for, purchased materials meet specifications required by construction documents and drawings, and all required inspections and tests are timely and properly performed and adequately documented.
INTRODUCTION

- Change orders are appropriately approved, supported, accurately priced, and sufficiently tracked; and construction allowances and contingency balances are adequately administered and controlled.

- Project completion is adequately administered, including completion of pre-final/final inspections, punch list items, project closeout checklist, and Notice of Completion; preservation of project files, equipment manuals/warranties, and spare parts/materials; and resolution of any liquidated damages.

SCOPE AND METHODOLOGY

The scope of audit included, but was not limited to, the review of design budgets and costs; the bid and award process; invoice processing and payment; change orders; construction management, architectural, and engineering services; use of major equipment/materials; the closeout process; administration of liquidated damages; and overall project cost accounting and reporting. This included any transactions or activity performed by the campus, construction management firm, and trade subcontractors.

Our study and evaluation were conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing* issued by the Institute of Internal Auditors, and included the audit tests we considered necessary in determining that operational and administrative controls are in place and operative. This review emphasized, but was not limited to, compliance with state and federal laws, BOT policies, and Office of the Chancellor and campus policies, letters, and directives.

We focused primarily on the operational and administrative controls in effect for the PHRB project with an emphasis on compliance with the CSU *Construction Management Procedures Manual*, ICSUAM policies and procedures associated with the capital outlay process, the campus capital outlay management plan, and construction contract general conditions. We evaluated the effectiveness of construction management policies and procedures and adequacy of internal controls and processes, and sought opportunities for improvement to further the success of CSU’s capital outlay program.

Specifically, we reviewed and tested:

- Delegation of construction management authority.
- Review and approval of project design, budget, and funding.
- Professional services agreements and any extra services changes.
- Administration of the bid and award process.
- Contract execution and required contract bonds and insurance.
- Subcontractors and subcontractor substitutions.
- Contract and service agreement payment processing.
- Procurement of major equipment and materials.
- Performance of required inspections and tests.
- Review, approval, and tracking of change orders.
- Direct labor and associated burden.
- Construction management and overall project cost accounting and reporting.
- Construction allowances and contingency balances.
- Administration of the project closeout process and resolution of any liquidated damages.
OBSERVATIONS, RECOMMENDATIONS, AND CAMPUS RESPONSES

PRE-CONSTRUCTION AND BID PROCESS

The campus did not obtain Disabled Veteran Business Enterprise (DVBE) participation documentation from the design-builder showing evidence that the participation goal was met or a good-faith effort was made to reach the goal.

The Contract General Conditions for Design-Build Projects §32.12 states that California state law requires that its state agencies make efforts to achieve a goal of three percent participation for DVBE in state contracts. Once the successful proposer begins competitive bidding selection of subcontractors, the proposer shall make a good faith effort to attain these participation goals and shall inform the Trustees of any DVBE consultant, supplier, or subcontractor. The DVBE participation documentation must be submitted once the major subcontractors have been selected, after the end of the design phase, and prior to starting construction.

The associate vice president (AVP) of physical plant and facilities management (PPFM) stated that this was the first time the campus had used the design-build delivery method, and there was miscommunication between departments regarding responsibility for DVBE participation documentation. He further stated that the design-builder had not selected subcontractors at the time of bid, and therefore, the normal campus protocol for verifying DVBE participation was circumvented.

Failure to obtain DVBE participation documentation from the design-builder increases the risk of non-compliance with DVBE requirements.

Recommendation 1

We recommend that the campus reiterate to staff that DVBE participation documentation showing evidence that the participation goal was met or a good-faith effort was made to reach the goal must be obtained from the design-builder.

Campus Response

We have reiterated to the staff the need and requirement for DVBE and/or good faith verification during the course of subcontractor selection in the design-build process. Corrective action on this item is complete.

CHANGE ORDER ADMINISTRATION

APPROVAL

Change orders were not always approved according to authorized dollar thresholds.
Specifically, we found that two change orders totaling $181,957 were not approved by the AVP of PPFM, as required by the campus delegation of authority.

The California State University, Long Beach Signature Approval Authority – Capital Projects memorandum states that approval by the AVP of PPFM is required for change orders between $75,000 and $100,000.

The AVP of PPFM stated that the failure to properly approve change orders was due to oversight in paperwork processing. He further stated that the campus had located the memos sent to obtain the signatures but could not find the original change orders, which included the proper approvals.

Inadequate approval of change orders increases the risk that errors and irregularities will not be detected in a timely manner and may result in unwarranted changes and excess charges and expenses.

**Recommendation 2**

We recommend that the campus reiterate to staff that change orders must be approved according to authorized dollar thresholds.

**Campus Response**

We concur with the recommendation. This policy has been reiterated to all project managers that change orders must be approved according to authorized dollar thresholds. Corrective action on this item is complete.

**LABOR RATES AND BURDEN**

Administration of trade subcontractor labor rates and associated labor burden needed improvement.

We reviewed hourly labor rates and associated labor burden charged by two trade subcontractors for a sample of change orders, and we found that one subcontractor and a sub-tier subcontractor had charged inflated labor rates. In addition, two change orders contained mathematical errors. The inflated rates and mathematical errors increased labor costs by $3,727.

The Contract General Conditions for Design-Build Projects §37.01b states, in part, that the design-builder and subcontractors shall submit a fully detailed breakdown of the cost of every labor classification to be utilized on a proposed change on the hourly labor rate worksheet. The unit cost of labor shall be an accurate accounting of actual costs being paid.

The AVP of PPFM stated that the construction management team made an error while reviewing the change orders and missed the double mark-ups. He further stated that the inflated labor rates were discussed, but not documented, at the time of the change order negotiation, and the campus had decided to allow additional management costs above those included in the contract general conditions.
Failure to ensure that hourly labor rates and the associated labor burden are correct and failure to detect mathematical errors may result in increased project costs.

**Recommendation 3**

We recommend that the campus:

a. Pursue recovery of the $3,727 overcharge and determine, as appropriate, if other change order work performed by these trade subcontractors was cost-inflated in a similar manner. The results of this recovery should be reported to the chancellor’s office Capital Planning, Design and Construction department.

b. Conduct staff training to ensure that hourly labor rates and the associated labor burden charged by trade subcontractors are appropriate and accurate in accordance with §37.00, Changes in the Work, of the *Contract General Conditions for Design-Build Projects*.

**Campus Response**

a. The campus will attempt to recover the overcharge. We will report the outcome to Capital Planning, Design and Construction. Estimated date of completion is June 1, 2013.

b. The campus will conduct the necessary training with the appropriate staff members to ensure that hourly labor rates and the associated labor burden charged by trade subcontractors are appropriate and accurate in accordance with §37.00, Changes in the Work, of the *Contract General Conditions for Design-Build Projects*. Estimated date of completion is April 22, 2013.

**PROJECT COMPLETION AND CLOSEOUT**

The campus filed the Notice of Completion for the PHRB four months before finalizing the certification of completion.

Integrated California State University Administrative Manual §9830, *Contract Completion and Acceptance of Construction*, states that the process for inspection and acceptance of completed contract work includes a pre-final inspection of construction, which may include preparation of a punch list for any deviations or delinquencies in the work, and a final inspection, which includes completion of the project closeout checklist and certification of completion by the designer/architect, project manager/construction inspector, and construction administrator. Upon completion, the construction administrator files a Notice of Completion with the county recorder of the county where the project is located.

The AVP of PPFM stated that the original certificate of completion was signed and completed prior to the Notice of Completion, but during the relocation of office facilities, the original could not be located. He further stated that the forms were re-created, but not backdated, to make sure all paperwork was documented and in order.
Failure to finalize the certification of completion before filing the Notice of Completion increases the risk of misunderstandings and miscommunication regarding rights and responsibilities.

**Recommendation 4**

We recommend that the campus reiterate to staff that the certificate of completion should be finalized before the Notice of Completion is filed.

**Campus Response**

This policy has been reiterated to staff that all items on the certificate of completion should be finalized before the Notice of Completion is filed. Corrective action on this item is complete.
## APPENDIX A:
### PERSONNEL CONTACTED

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td><strong>Office of the Chancellor</strong></td>
<td></td>
</tr>
<tr>
<td>James Hoffman</td>
<td>Chief of Construction Management</td>
</tr>
<tr>
<td>Elvyra San Juan</td>
<td>Assistant Vice Chancellor, Capital Planning, Design and Construction</td>
</tr>
<tr>
<td><strong>California State University, Long Beach</strong></td>
<td></td>
</tr>
<tr>
<td>F. King Alexander</td>
<td>President</td>
</tr>
<tr>
<td>Robert Loeschen</td>
<td>Associate Dean, College of Natural Sciences and Mathematics</td>
</tr>
<tr>
<td>Sam Mori</td>
<td>Director, Design and Construction Services</td>
</tr>
<tr>
<td>Enrique Robles</td>
<td>Manager, Capital Construction Projects</td>
</tr>
<tr>
<td>David Salazar</td>
<td>Associate Vice President, Physical Plant and Facilities Management</td>
</tr>
<tr>
<td>Lisa Salgado</td>
<td>Assistant Construction Manager</td>
</tr>
<tr>
<td>Aysu Spruill</td>
<td>Director of Internal Auditing Services and</td>
</tr>
<tr>
<td></td>
<td>Campus Information Security Officer</td>
</tr>
<tr>
<td>Mary Stephens</td>
<td>Vice President, Administration and Finance</td>
</tr>
<tr>
<td>Sharon Taylor</td>
<td>Associate Vice President, Financial Management</td>
</tr>
<tr>
<td>Mark Zakhour</td>
<td>Senior Construction Manager</td>
</tr>
</tbody>
</table>
April 8, 2013

Mr. Larry Mandel
University Auditor
California State University
401 Golden Shore
Long Beach, California 90802

Re: Response to Peterson Hall 3 Replacement Building Audit #12-15

Dear Larry:

Please find enclosed California State University, Long Beach's response to the above report. The campus is committed to addressing and resolving the issues identified in the audit report.

Please let me know if we can provide you with any additional information.

Sincerely,

Mary Stephens
Vice President for Administration and Finance

Enclosure

IA-0310

c: F. King Alexander, President
   Ted Kadowaki, Associate Vice President, Budget and University Services
   David Salazar, Associate Vice President, PPFM
   Aysu Spruill, Director, Internal Auditing Services/Information Security Officer
CONSTRUCTION
CALIFORNIA STATE UNIVERSITY,
LONG BEACH
PETERSON HALL 3 REPLACEMENT BUILDING
Audit Report 12-15

PRE-CONSTRUCTION AND BID PROCESS

Recommendation 1

We recommend that the campus reiterate to staff that DVBE participation documentation showing evidence that the participation goal was met or a good-faith effort was made to reach the goal must be obtained from the design-builder.

Campus Response

We have reiterated to the staff the need and requirement for DVBE and/or good faith verification during the course of subcontractor selection in the design-build process. Corrective action on this item is complete.

CHANGE ORDER ADMINISTRATION

APPROVAL

Recommendation 2

We recommend that the campus reiterate to staff that change orders must be approved according to authorized dollar thresholds.

Campus Response

We concur with the recommendation. This policy has been reiterated to all project managers that Change Orders must be approved according to authorized dollar thresholds. Corrective action on this item is complete.

LABOR RATES AND BURDEN

Recommendation 3

We recommend that the campus:
a. Pursue recovery of the $3,727 overcharge and determine, as appropriate, if other change order work performed by these trade subcontractors was cost-inflated in a similar manner. The results of this recovery should be reported to the chancellor’s office Capital Planning, Design and Construction department.

b. Conduct staff training to ensure that hourly labor rates and the associated labor burden charged by trade subcontractors are appropriate and accurate in accordance with §37.00, Changes in the Work, of the Contract General Conditions for Design-Build Projects.

Campus Response

a. The campus will attempt to recover the overcharge. We will report the outcome to Capital Planning, Design and Construction. Estimated date of completion is June 1, 2013.

b. The campus will conduct the necessary training with the appropriate staff members to ensure that hourly labor rates and the associated labor burden charged by trade subcontractors are appropriate and accurate in accordance with §37.00, Changes in the Work, of the Contract General Conditions for Design-Build Projects. Estimated date of completion is April 22, 2013.

PROJECT COMPLETION AND CLOSEOUT

Recommendation 4

We recommend that the campus reiterate to staff that the certificate of completion should be finalized before the Notice of Completion is filed.

Campus Response

This policy has been reiterated to staff that all items on the certificate of completion should be finalized before the Notice of Completion is filed. Corrective action on this item is complete.
April 17, 2013

MEMORANDUM

TO: Mr. Larry Mandel
University Auditor

FROM: Timothy P. White
Chancellor

SUBJECT: Draft Final Report 12-15 on the Peterson Hall 3 Replacement Building, California State University, Long Beach

In response to your memorandum of April 17, 2013, I accept the response as submitted with the draft final report on the Peterson Hall 3 Replacement Building, California State University, Long Beach.

TPW/amd