



Seattle Public Schools Office of Internal Audit

Internal Audit Report Genesee Hill Elementary School Design

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Introduction and Background

This report contains the results of the Office of Internal Audit's performance audit of the design of Genesee Hill Elementary School. The audit was performed in accordance with the 2016 capital risk assessment and audit plan approved by the Audit and Finance Committee.

The design process, as defined by the Office of Superintendent of Public Instruction (OSPI), incorporates all prior planning, educational specifications, site studies, codes and regulations, high-performance building standards, and financial parameters into written and graphic documents that form the basis for constructing a school. The scope of the Genesee Hill project consists of demolition of the closed building and construction of a new 91,000 square foot elementary school with capacity for 660 students. The project budget is \$41 million, and construction began in September 2014. The district expects the school to be substantially complete after an inspection by Labor and Industries, which is scheduled for June 23, 2016.

Audit Objectives

- To perform an internal controls and cost review of the design phase of the Genesee Hill project.
- To evaluate the reasonableness of architectural engineering fees and design cost methodology.
- To assess the role of the school design advisory team (SDAT) in the overall design process and in the design of Genesee Hill Elementary School.

Audit Scope and Methodology

The audit scope encompassed the activities, decisions, costs, and stakeholders that resulted in the ultimate design of this project. The audit focused only on the Genesee Hill project, and the recommendations in this report may not apply to other building projects. To accomplish the audit objectives, we performed the following procedures:

- Gained an understanding of applicable contract provisions, district policies, and state guidelines.
- Interviewed key district staff and other stakeholders.
- Examined documentation, reports, files, and correspondence pertaining to the design of the project.
- Analyzed the district's management of personal services contracts (PSCs).
- Performed other audit procedures or tests deemed necessary to achieve the audit objectives.

Conclusion

Several causes contributed to design changes and increased costs on the Genesee Hill Elementary School project. In addition to site challenges, the original preferred scheme was determined to be over the authorized budget and less efficient in terms of maintenance and security. This report contains recommendations related to the timing of value engineering, cost estimating, stakeholder roles, and personal services contract management.

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Findings and Recommendations

1. Late Redesign of Project Increased Costs

For school facilities approved by OSPI, a value engineering study, also known as value analysis, is required during design if the project is over 50,000 square feet. WAC 292-343-080 defines value engineering as “a cost control technique which is based on the use of a systematic, creative analysis of the functions of the facility with the objective of identifying unnecessary high costs or functions and/or identifying cost savings that may result in high maintenance and operation costs.”

An informal value engineering study performed on the schematic design of Genesee Hill Elementary School revealed the project was over budget. The original design was two separate two-story buildings, one on the upper level of the site and one on the lower level, with bridges connecting the two buildings. The district did not accept enough of the proposed cost reductions from the study to bring the bridge scheme within budget.

In July 2013, the district directed the architect to redesign the project; the result was the current three-story scheme with no building on the lower section of the site. The design team had spent more than four months on schematic design of the bridge scheme. Redesigning the school represented changes late in the process and beyond the normal design evolution, as schematic design and portions of design development had already been completed. Rather than risk delaying the completion of construction documents, the district elected to accelerate the redesign efforts and maintain the schedule for bidding the project. Acceleration cost the district approximately \$414,000.

The architect’s standard contract requires that the district give written authorization to proceed to the architect once schematic design documents have been accepted. The district did not produce documentation to demonstrate that the architect was authorized to proceed to design development. This is important in evaluating whether cost controls are effective and working as intended.

Recommendation

District practices, as they pertain to the timing of value analysis, are in line with OSPI guidelines. OSPI guidance states that value engineering studies should be performed no later than design development and suggests that the process begin during schematic design. However, the district may conduct earlier studies. Earlier analysis for the Genesee Hill project could have revealed the need to explore other design options.

We recommend the district consider performing value engineering in two phases, at the completion of conceptual design and again at the completion of schematic design. The earlier study provides the opportunity for the district to make broad-based changes in the direction of design before detailed design begins. As a result, extensive redesign past the conceptual design phase is less likely. Other options may include retaining a cost estimator during conceptual design. Whatever



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the approach, the district should not allow the design process to continue unless the project estimate is reconciled to the budget.

We recommend that for all projects, the district give the architect written authorization to proceed and that the documentation contain evidence of the following:

- the schematic design package was approved
- the schematic design estimate was reconciled to the authorized budget
- the architect was authorized to proceed to design development



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2. Maximum Allowable Construction Cost Did Not Include Escalation

The district uses guidelines from the Office of Financial Management (OFM) to determine the architect's fee for basic services. Fees are based on the building type and complexity and the maximum allowable construction cost (MACC), escalated to the mid-point of construction. OFM defines the MACC as "the total sum available to the architect/engineer for construction purposes, including all alternates. The MACC excludes Washington state sales tax, professional fees, project contingency funds, or other charges that may not be under the scope of the architect."

In August 2013, the district modified the architect's contract, increasing the MACC by \$1.8 million and raising the architect's fees by \$114,558. The reason for increasing the MACC was that escalation had not been included in the MACC in the original contract, which was executed in February 2013.

Recommendation

Escalation is a consistent factor in construction cost estimating and should be factored into the MACC when the architect's contract is executed. An accurate estimate of the allowable construction cost is also important for cost containment.

Considering the methodology used to calculate the fees and the potential for annual updates to the fee schedule, we recommend the district include construction escalation in the MACC when the architect's contract is signed. This would be consistent with all other construction estimates we reviewed during this audit.



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3. Stakeholder Roles Could Be More Clearly Defined

The district employs effective methods such as charrette processes to obtain input from stakeholders and improve the design of school buildings. A primary stakeholder during the design phase is the school design advisory team. SDAT works with the district and the architect in the early stages of design of major construction projects. Members assist in developing the overall project vision and key concepts to guide the design team in creating the project plans. The Genesee Hill SDAT team was comprised of school staff, Capital Projects staff, parents, and others from the community. The group had several workshops that included orientation, an overview of Seattle Public Schools' educational specifications, a conceptual design charrette, and refinement of conceptual design options.

To receive state funding, the district must design its schools to meet high performance green building standards. These standards are defined in the Washington Sustainable Schools Protocol (WSSP). The district has also established guiding principles for SDAT's work. While SDAT's role is to assist in designing a school that meets the needs of students, this must be accomplished within the limits of the district's educational specifications, technical specifications, the project budget, and the project schedule.

The bridge scheme was selected by SDAT as the preferred design, and the architect moved forward with that option. After the district determined that construction of this design would exceed the project budget, SDAT asked for a budget increase to accommodate the bridge concept. In addition to cost, however, the district was concerned that the bridge scheme would be difficult to maintain, pose security issues, and present other inefficiencies.

Recommendation

In general, the role and responsibilities of SDAT appear to be well defined by the district. However, we recommend the district emphasize to stakeholders that project budgets are not negotiable. Although SDAT plays an important role in selecting a conceptual design option, the district is the custodian of BEX funds and has sole authority to make final design and budgetary decisions.

We also recommend the district communicate parameters such as site restrictions as early as possible so that SDAT has this information prior to reviewing design options. Any conceptual design options presented to SDAT for consideration should be within the project budget or capable of being modified to meet the budget.



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4. Personal Services Contracts Are Poorly Managed

The district modifies contracts to increase the hourly rate for services previously rendered and to increase the value of expired contracts.

In one contract, the agreed upon rate for attorney services was \$450 per hour, but the district paid \$475 per hour throughout the term of the contract. Three modifications were executed during the contract term, but none of them revised the hourly rate. After the contract expired, we found that the district was in the process of issuing a fourth modification. We advised Accounting that the district had paid the wrong hourly rate and, more importantly, that expired contracts generally should not be modified. We emphasized that adequate monitoring by staff is necessary to prevent these problems. Despite our concerns, the initiating department issued two additional modifications, one to increase the value of the contract to pay invoices, another to retroactively revise the hourly rate to \$475. While it is not unusual to pay consultants after contract expiration for work performed during the contract term, reviving an expired contract can create unnecessary risks for the district.

These were not the only instances where the district modified contracts to increase hourly rates after the services had been performed and modified contracts after they expired.

Recommendation

We recommend the district revise its procedures for personal services contracts to prohibit modifying expired contracts. PSC procedures should explicitly require that modifications be executed *before* the contract ends, whether it is a change to the financial terms, scope of work, or period of performance.

Current district procedures require that PSCs be approved before work begins. The same should be true for contract modifications. Modifications should be in effect before the contractor performs work subject to the modification.

The district has responsibility for reasonable and necessary monitoring of contracts. We recommend the district make it mandatory that departments adequately monitor personal services contracts. These audit recommendations apply to all personal services contracts. They represent common business practices for contract management and are intended to promote accountability and reduce the district's exposure to risk. Effective monitoring means departments should ensure that:

- the district pays the rate agreed to in the contract
- the contractor does not perform work subject to a modification until that modification has been fully executed.
- expired contracts are not modified
- modifications, including changes to billing rates, are not retroactive
- the project budget, amount billed, and work performed but not yet billed are closely monitored so that the contract value is not exceeded



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Management Response

Capital Projects and Planning

During the design process, the Capital Projects Office learned that the project was over budget at the end of conceptual design. We agree that the project should not move forward without either reconciling to the project budget or seeking additional funds. Providing a Value Analysis Study at the conclusion of this phase to assist in this effort is a tool to assist in reconciling the project to the budget and may provide some value but does not alleviate the architect's contractual responsibility.

Inflation is common on any multi-year project and needs to be considered when budgeting a project with funds allocated in the project budget to address this cost.

Clear guidelines need to be provided to all committees working on a project so that they have a clear understanding of their role and responsibilities.

Accounting Office

We have an unauthorized procurement form departments can complete and sign to acknowledge and explain the mistake. This can be attached to the original contract. We may need to expand the form to cover these situations.