



SCHOOL BOARD ACTION REPORT

DATE: September 17, 2018
FROM: Denise Juneau, Superintendent
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For Introduction: October 17, 2018
For Action: October 30, 2018

1. TITLE

BEX IV/BTA IV: Approval of the Value Engineering Report and the Architect's Response and Recommendation Matrix for the Daniel Bagley Elementary School Modernization and Addition project

2. PURPOSE

This Board action helps secure approximately \$1,900,000 in state funding assistance for the Daniel Bagley Elementary School Modernization and Addition project. The Office of Superintendent of Public Instruction (OSPI) Form D-7, Application requires Board acceptance of the Value Engineering Report and the Architect's Response and Recommendation Matrix.

3. RECOMMENDED MOTION

I move that the School Board approve and accept the Value Engineering Report dated July, 2017, and the Architect's Response and Recommendation Matrix for the Daniel Bagley Elementary School Modernization and Addition project.

4. BACKGROUND INFORMATION

a. Background

Daniel Bagley Elementary School is located at 7821 Stone Avenue North, Seattle, Washington 98103.

In July of 2017, Sazan Group performed an independent value engineering study of the schematic design drawings for the Daniel Bagley Elementary School Modernization and Addition project, as designed by Miller Hayashi Architects.

The study was undertaken by a team of professional architects, engineers, and cost estimators who analyzed the design and developed suggestions for adding value to the project. Value Engineering is defined by the Washington Administrative Code (WAC) 392-343-080 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.*

The value analysis suggestions were accepted if they added value and/or reduced costs without negatively affecting the educational program and goals or the long-term operation of the building. The study provided the design team and district with information and strategies necessary to keep construction costs within budget.

The Value Engineering consultant made 29 different value recommendations, of which 12 were accepted or partially accepted and had potential cost savings, and 17 were rejected for various reasons, including not meeting district educational and program goals, district maintenance goals, or district sustainability goals. The total anticipated cost savings from the suggested proposals that the design team and district accepted is approximately \$368,000.

To date, the following key actions related to this project have been approved by the Board:

- Architecture and Engineering contract to Miller Hayashi Architects (8/2/16)
- Contract for Construction Management Services to Shiels Oblatz Johnsen (8/24/16)
- Four actions related to the Daniel Bagley School Modernization and Addition Project (6/6/18)

b. Alternatives

Deny Motion. If motion is denied, it would delay the issuance of the form D-8 form, which allows the district to open bids and could impact the district’s ability to receive state funding assistance. Not having the ability to open bids could potentially have a negative impact on the Daniel Bagley Elementary School Modernization and Addition project.

c. Research

OSPI requires the Board to accept or reject the proposals as outlined in the value engineering report, prepared by Sazan Group, for all projects larger than 50,000 square feet. According to the American Institute of Architects (AIA) and Building Excellence (BEX) standards, value analysis is an industry best practice for large construction projects, regardless of state funding assistance requirements.

5. FISCAL IMPACT/REVENUE SOURCE

This action does not represent a specific expenditure.

This action helps to secure up to \$1.9 million in state funding assistance for the project.

The revenue source for this project is from BEX IV and BTA IV capital levy funds, and the state of Washington’s K-3 Class Size Reduction Grant. This project is budgeted at \$40,344,411.

Expenditure: One-time Annual Multi-Year N/A

Revenue: One-time Annual Multi-Year N/A

6. COMMUNITY ENGAGEMENT

With guidance from the District’s Community Engagement tool, this action was determined to merit the following tier of community engagement:

- Not applicable
- Tier 1: Inform
- Tier 2: Consult/Involve
- Tier 3: Collaborate

In February 2013, 72% of Seattle voters approved the Building Excellence (BEX) IV Capital levy. This levy was the culmination of an eighteen-month long process analyzing the facility needs of the district and supports the district’s long-range plans to upgrade and renovate aging school facilities. The process included countless hours of planning, coordination efforts throughout the district, community engagement and feedback, extensive Board guidance and input that lead to a unanimous Board vote in November 2012 that approved the BEX IV projects list.

Additionally, projects in the Buildings, Technology and Academics (BTA) IV program went through an extensive community vetting process and was approved by Seattle voters on February 9, 2016. The Preliminary Environmental Impact Statement (PEIS) for the BTA IV program included a public comment period from May 19, 2016 to June 24, 2016.

7. EQUITY ANALYSIS

This motion was not put through the process of an equity analysis. The selection of projects in the BEX IV and BTA IV programs was developed with the goal of providing equitable access to safe school facilities across the city.

8. STUDENT BENEFIT

The Daniel Bagley Elementary Modernization & Addition project will further address the student capacity needs in the district. The design will incorporate guidelines and requirements provided in the SPS Educational Specifications and School Design Advisory Team process and will replace eight existing portable classrooms with permanent classrooms, create two additional classrooms within the existing building, and the addition of a new gymnasium.

9. WHY BOARD ACTION IS NECESSARY

- Amount of contract initial value or contract amendment exceeds \$250,000 (Policy No. 6220)
- Amount of grant exceeds \$250,000 in a single fiscal year (Policy No. 6114)
- Adopting, amending, or repealing a Board policy
- Formally accepting the completion of a public works project and closing out the contract

Legal requirement for the School Board to take action on this matter

Board Policy No. 6100, Revenues from Local, State, and Federal Resources provides the Board shall approve this item

Other: Requirement of the OSPI D-Form application process

10. POLICY IMPLICATION

School Board Policy No. 6100, Revenues from Local, State, and Federal Sources, states in part: “It is the policy of the Seattle School Board to pursue systematically those funding opportunities that are consistent with district priorities from federal, state, and other governmental units, as well as from private and foundation sources.” In addition, the policy states: “The Board agrees to comply with all federal and state requirements that may be a condition for the receipt of federal or state funds.”

11. BOARD COMMITTEE RECOMMENDATION

This motion was discussed at the Operations Committee meeting on October 4, 2018. The Committee reviewed and moved this item forward for consideration with amendments.

12. TIMELINE FOR IMPLEMENTATION

Upon approval of this motion, the Architect can continue with the design.

13. ATTACHMENTS

- Value Engineering Report for the Daniel Bagley Elementary School Modernization and Addition project (full report is for approval and available in the Board office)
- Value Engineering Implementation Matrix Part (for approval)
- Value Engineering Implementation Matrix Part 2 (for approval)
- Value Engineering Implementation Matrix Part 3 (for approval)

2.0 Study Results

Key Findings

The VET evaluated the design relative to: project goals achieved; functions served; technical considerations, constraints and issues; performance; risk factors; budget and estimated cost; and project delivery. The results of the VET's evaluation of the design are summarized below.

Overall, the team found that the design is meeting the program requirements while integrating the new addition with the existing gym building. The VET identified the following key findings we wish to highlight:

- Overall, the building design is lean and well thought out.
- Site plan layout for the master plan and classroom addition is leaving a fenced area south of the existing building which appears to be unutilized.
- Corridor connecting the classroom addition to the existing building is unloaded and an inefficient use of building area; if planned for flex space, breakout use will be compromised by primary use as a corridor; large expanse of glazing adds little benefit for daylighting and views relative to the cost.
- Classroom addition overexcavation at unconsolidated soils will be challenging and require shoring around the heritage cedar tree; proximity of addition to the tree introduces risk to the tree and a future risk to the building foundation/basement walls from root intrusion.
- Taking advantage of the excavated area at the classroom addition to build a basement is advantageous for the mechanical system, however it may not make the most sense structurally and could increase cost.
- Masonry brick structure at the north wing dining/gym area appears to have a sufficient depth of exterior wall section that helical pinning for seismic reinforcement may not be necessary.
- Cracking of the precast stone mullions is likely caused by differential shrinkage of the façade putting stress on the precast elements.
- Sizing of the new classrooms, plus inclusion of flex space, introduces disparity between the 850 sq.ft. new classrooms and the approximately 750 sq.ft. classrooms of the existing school.
- The alternative (Lydig S9) to locate the Library in the existing gym and convert the existing play structure back to use as covered play is resulting in the loss of two classrooms and a flex space.
- Mechanical system design approach is very sensible and takes good advantage of the existing tunnel and chase system.
- Routing any significant volume of mechanical ducting and installation of equipment in the attic of the existing building will be physically challenging and difficult to access for maintenance.
- Twelve to thirteen-month schedule is quite tight given the scope of the renovation and the tight labor market.
- Schedule challenges will be exacerbated by the need to excavate and construct a basement at the classroom addition.
- Overall, estimate line item pricing appears to reflect expected market pricing, with some appearing to be low and some appearing high.
- Design contingency at 7% is reasonable at this stage of design with the involvement of a GC/CM contractor; 8% escalation to point of construction is appropriate; GC/CM's contingency of 5% is reasonable; fee of 5.75%, inclusive of miscellaneous overhead, is reasonable.
- Estimate is not carrying an explicit market conditions factor to reflect the current bid market and level of

construction activity.

Key Recommendations

The VET recommends several key actions and alternatives that emerged in response to the workshop objectives, project goals, issues and shortcomings which were identified and opportunities to improve the project success. (Discussions regarding implementation of recommendations can be found on the referenced Value Engineering Implementation Matrix under the Item Number indicated.)

- Shift the classroom addition south and east to take advantage of the underutilized southeast corner of the site, improve the net-to-gross building efficiency, and allow increased area to the west for future expansion. Matrix 1:
OI-41
- Give the signature tree adjacent to the classroom addition more breathing room. Matrix 3: Other-1
- Install geopiers to consolidate the soil at the classroom addition, eliminate or reduce the basement area, and place mechanical equipment in a penthouse. Matrix 1:
SL-56
- Locate the Art, Music and Flex spaces in the existing covered play, the Library in the existing gym, and construct new covered play space; or retain the Schematic Design layout for these spaces, to maintain the planned program area. Matrix 1:
OI-80
- Make accommodations for the master plan future expansion, e.g. allow space in the electrical room for a service size increase; locate the classroom addition stair to serve future classrooms; design installations that need to be moved or removed in the future to be flexible and low-cost. Matrix 3:
Other-2
- Eliminate the mechanical mezzanines on the existing building roof and utilize the existing basement area and new additions roof area for mechanical equipment. Matrix 3:
Other-3
- Complete invasive inspection and testing of the existing brick veneer tie-backs, strength of building structure concrete, and condition of the cast stone window mullions to clarify bid requirements and detailing. Matrix 3:
Other-4
- Investigate where seismic upgrades to the brick veneer are needed and invest in a complete seismic tie-back now rather than completing a partial job. Matrix 3:
Other-5
- Repair the precast stone mullions in place and add a compression joint to additional mullions at risk. Matrix 3:
Other-6
- Use the existing mechanical tunnels as much as possible for MEP distribution and minimize the use of the existing attic area for distribution. Matrix 3:
Other-7
- Recommend evaluating if the estimate unit pricing is adjusted for anticipated market conditions and, if not, include a 10% contingency factor for market uncertainty. Matrix 3:
Other-8
- Bid additional classrooms as additive alternates. Matrix 3: Other-9
- Develop a strategy to increase the construction duration to 14-16 months, particularly for the renovation. Matrix 3:
Other-10

Several of the key recommendations outlined above are discussed in Section 5.0 Value Improvement Alternatives. Section 5.0 presents several key alternatives the VET recommends for acceptance or serious consideration.

4.0 Project Evaluation

The VET reviewed the schematic design documents from the perspective of design professionals familiar with the design and construction of similar project types. The team utilized several analytical means to evaluate the project design and cost estimate. These included: peer review and site observation of project elements; function analysis of project requirements; design review; and construction estimate and project delivery evaluation.

Cost Analysis

The value team completed an analysis of the estimated cost of the project and budget in comparison to recently reviewed projects of similar type and scope. The comparative analysis is focused on the addition portion of the project due to the unique nature of the renovation and modernization.

Comparison of Building Cost Per Sq. Ft.

The value team compared the overall cost per sq. ft. of the classroom and gym additions of the project relative to recently reviewed comparable K-12 projects and the average of these projects. The comparison estimates are for six addition projects which show an average estimated cost per sq. ft. of \$340 (for the building only not including site development cost). The Bagley addition estimated cost at \$538 per sq. ft. is approximately 58% higher than the sq. ft. average. The higher cost per sq. ft. for the Bagley addition scope can be attributed to several factors. The more significant of these include:

- Escalation factor is significantly higher than the comparison average, reflecting recent and projected trends, and the fact that this project will be completed in year 2020.
- Classroom addition includes a basement, which none of the comparables do
- Exterior enclosure is significantly higher than the average
- Building area is relatively small compared to other projects reviewed

Further assessment by the project team of the design assumptions resulting in the high cost of the exterior enclosure is warranted.  [Matrix 3: Other-11](#)

5.0 Value Improvement Alternatives

Following the VET's review of background information, developing an understanding of the required functions and evaluation of the project design and cost, the team generated a list of 85 ideas addressing project issues and opportunities to improve project value. The team used the list of functions identified during function analysis to guide and organize the generation of ideas. This initial list of ideas was scored by the team using the project goals and study objectives as guidelines. Eighteen ideas were identified as having sufficient merit to warrant further assessment and selected for analysis and documentation as project alternatives. Additionally, 12 ideas were selected to be price-only, but not receive a full write up. The remaining ideas were either incorporated into the documented alternatives, presented as design considerations to be considered later by the project team, or deemed as not warranting further attention.

Key Recommended Alternatives

The VET recommends the following alternatives which respond to the workshop objectives, project goals, issues and opportunities to improve the project success are accepted or given serious consideration.

Condition Space

CS-82 Use hydronic radiant convectors at the gym in lieu of gas-fired unit heaters. (Cost addition of \$14,000) Recommend staying with the use of radiant convectors at the gym for comfort and to avoid noise issues in a teaching space of the gas-fired unit fans.  [Matrix 1](#)

Distribute Technology

DT-27 Eliminate the voice annunciation from the fire alarm system and use horn/strobes. (Cost avoidance of \$113,000; priced-only alternative) Recommend confirming with Seattle Fire Marshal that, with the planned clock-intercom system, redundant voice annunciation capability will not be required.

DT-44 Relocate the communications MDF room to the classroom addition, use the existing MDF as an IDF room, and remove the communications cabling from the northeast corner of the existing building. (Cost addition of \$24,000; priced-only alternative) Recommend implementing to route technology cabling underground and clean up the exterior façade of the building at the most public side of the existing building. » Matrix 2

Enclose Space

ES-24 Repair in place and/or remove and repair the cast stone window mullions. (Cost avoidance of \$44,000) Recommend working with a building enclosure masonry restoration company to evaluate repairing the cast stone window mullions. » Matrix 1

ES-70 Use spray foam insulation in lieu of weather barrier, batt and rigid insulation at existing building retrofit. (Cost addition of \$25,000) Recommend considering the use of spray foam insulation at the existing building to achieve a better air barrier and thermal seal. Reevaluate the baseline cost estimate to confirm that the full cost for the baseline air barrier requirement is covered; relative cost for this alternative could be reduced depending on whether adequate cost is included in the baseline estimate. » Matrix 1

ES-85 Eliminate helical pinning not required at the North Building; retain re-pointing and cleaning. (Cost avoidance of \$168,000) Recommend confirming that brick at north wall of the North Building wing is not veneer and does not need pinning. » Matrix 2

Organize Interior

OI-41 Shift classroom addition east and south. (Cost avoidance of \$816,000) Recommend shifting the building to take advantage of unutilized site area south of the existing building, and to benefit from the advantage of eliminating the non-loaded corridor connecting the classroom addition to the existing building. » Matrix 1

OI-42 Add two classrooms to classroom addition south of the existing building. (Cost addition of \$374,000) Recommend including a bid alternate to add two classrooms. » Matrix 1

OI-80 Locate Art, Music and Flex spaces in the existing covered play and Library in the existing gym. (Cost addition of \$249,000) Recommended considering locating the Art, Music and a Flex space in the existing covered plan, constructing the new covered play, and using the existing gym as the Library space, to retain these areas as teaching stations. » Matrix 1

Support Load

SL-56 Eliminate mechanical basement at classroom addition, use geopiers for the substructure, and increase the size of the mechanical mezzanine. (Cost avoidance of \$80,000) Recommended evaluating this alternative further to vet potential cost, risk and schedule advantages of not constructing a basement. » Matrix 1

SL-64 Use plywood for shear at the gym. (Cost avoidance of \$72,000) Recommended for cost reduction and ease of construction. » Matrix 1

SL-75 Use surface mounted HSS redundant load columns at the north elevation of the existing dining and gym. (Cost avoidance of \$36,000) Recommended for ease of construction, cost savings and avoiding compromising the integrity of the existing structural brick walls where recessed load columns are planned » Matrix 1

All documented alternatives are listed on the Value Improvement Matrix, including the estimated cost and the VET's recommended action for each alternative. The complete list of ideas generated by the VET is included on the Creative Idea List. It is recommended that the project team review the full list of ideas generated to determine if other ideas warrant further investigation. Both lists and detailed workbooks documenting each alternative are included in Appendix B Value Improvement Alternatives. The project team's formal response to the VET findings and recommendations is included in Appendix A Owner Implementation.

VALUE IMPROVEMENT MATRIX

Bagley Elementary School
Seattle Public Schools

ARCHITECT'S RESPONSE & RECOMMENDATIONS

May 15, 2018

Function Idea No	Alternative	VE Team Recommendation			Owner Implementation			
		Potential	Cost Avoidance	Cost Addition	Cost Avoidance	Cost Addition	Comments	
Condition Space								
CS-11	Use a hydronic runaround loop for heat recovery.	+139,000	R		+139,000		Reject: This approach allows for the heat recovery unit to be located in the existing boiler room but does not meet SPS Technical Building Standards - the glycol run-around loop decreases energy efficiency and increases systems maintenance & operations costs.	
CS-82	Use hydronic radiant convectors at the gym in lieu of gas-fired unit heaters.	+14,000	A		+14,000		Reject: the stand-alone gas fired system with heat recovery in the gym allows gym operation after school hours without requiring school-wide energy use.	
Deliver Power								
DP-25	Use tunnel to route electrical service between new electrical rooms at the gym and the classroom additions.	-1,000	A	-1,000			Accept: This is provisionally accepted, the anticipated savings will depend on the actual distances involved.	
Enclose Space								
ES-24	Repair in place and/or remove and repair the cast stone window mullions.	-44,000	A	-44,000			Accept: The majority of the cast stone vertical window dividers can be epoxy repaired in place, a small number are damaged beyond repair and will be replaced.	
ES-70	Use spray foam insulation in lieu of weather barrier, batt and rigid insulation at existing building retrofit.	+25,000	C		+25,000		Reject: While the project is using spray foam insulation for hard to access areas at the attic walls, the benefit does not warrant the additional cost at the classrooms.	
Finish Interior								
FI-35	Use drop ACT ceilings in the classrooms with lay-in light fixtures.	-15,000	A	-15,000			Accept: This idea was implemented by the team in the DD cost estimate reconciliation, so the savings are not reflected in this tabulation.	
Organize Interior								
OI-41	Shift classroom addition east and south.	-816,000	A	-816,000			Accept: The classroom addition can be relocated to achieve more efficient layout and still minimize impact on the existing exceptional tree. Preliminary costing of the change by Lydig resulted in a downward adjustment of the anticipated savings.	
OI-42	Add two classrooms to classroom addition south of the existing building.	+374,000	C		+374,000		Reject: The additional classrooms are not in the budgeted work scope at the time of the VE Study.	
OI-47	Add four classrooms to classroom addition.	+1,589,000	C		+1,589,000		Reject: The additional classrooms are not in the budgeted work scope at the time of the VE Study.	
OI-80	Locate Art, Music and Flex spaces in the existing covered play and Library in the existing gym.	+249,000	A		+249,000	249,000	Accept: subsequent to the VE study, project was funded for extra classrooms.	
Park Vehicles								
PV-23	Remove the curb and planter strip along Stone Ave. and add a bus turnout to improve circulation.	+30,000	A		+30,000		Reject: Street Right-of-Way improvements are not in the budgeted work scope, the proposed additional paving would have a ripple effect to increase costs of stormwater management for the project.	
Support Load								
SL-17	Use SureBoard for shear at the gym.	-55,000	C	-55,000			Reject: During DD cost reconciliation the team settled on an insulated pre-cast panel system for construction of the gym addition that is less expensive than framed construction, that makes this proposal moot.	
SL-51	Use buckling restrained braced frames (BRBF) in lieu of special concentric brace frames (SCBF).		CN	PA			Reject: This alternative brace frame approach has been evaluated, no cost impact is anticipated.	
SL-52	Use W2 decking with 5.5 in. topping to help reduce vibration at classroom addition second floor.		CN	A			Accept: The proposed deck is 5.5 inches, no cost impact.	
SL-56	Eliminate mechanical basement at classroom addition, use geopiers for the substructure, and increase the size of the mechanical mezzanine.	-80,000	C		-80,000		Reject: This proposal necessitates construction of a mechanical roof penthouse and structural reinforcement below, that would offset the anticipated savings. The project would still have the expense and schedule impact of geo-piers to mitigate the soils. The basement solves both issues and also provides space for new Main	
SL-64	Use plywood for shear at the gym.	-72,000	A		-72,000		Reject: see Item SL-17	
SL-75	Use surface mounted HSS redundant load columns at the north elevation of the existing dining and gym.	-36,000	A		-36,000	-36,000	Accept: The cost savings comes from reduction to foundation work, the design team can accomplish this by partial embedment in the brick wall.	
Alternatives Pricing Summary					-\$1,119,000	\$2,420,000	-\$253,000	\$249,000

Implementation Code

- A Accept
- PA Partially Accept
- C Consider Further
- R Reject

Price Code

- CN Cost Neutral

VALUE ENGINEERING IMPLEMENTATION MATRIX PART 2

PRICED-ONLY ALTERNATIVES MATRIX

Bagley Elementary School
Seattle Public Schools

ARCHITECT'S RESPONSE & RECOMMENDATIONS

May 15, 2018

Function Idea No	Alternative	Potential	VE Team Recommendation		Owner Implementation		Comments		
			Cost Avoidance	Cost Addition	Cost Avoidance	Cost Addition			
Convey Waste									
CW-5	Eliminate the site grease interceptor and use a sink grease trap.	-16,000	A	-16,000		-16,000	Accept: Bagley has a warming kitchen with minimal dish and ware washing.		
Distribute Power									
DP-29	Use central back-up battery inverter in lieu of individual battery packs.	-13,000	A	-13,000			Reject: Necessary circuiting and layout will offset proposed savings.		
Distribute Technology									
DT-44	Relocate the communications MDF room to the classroom addition, use the existing MDF as an IDF room, and remove the communications cabling from the northeast corner of the existing building.	24,000	A		+24,000		Accept: This approach will allow project to provide an MDF room meeting SPS Technical Building Standards.		
DT-27	Eliminate the voice announcement from the fire alarm system and use horn/strobes.	-113,000	C	-113,000			Reject: voice announcement is required by Seattle code.		
Enclose Space									
ES-85	Eliminate helical pinning not required at the North Building; retain re-pointing and cleaning.	-168,000	C	-168,000		-168,000	Accept, adequate condition of existing veneer anchoring was confirmed.		
ES-58	Reduce the quantity of glazing at the classroom addition.	-10,000	C	-10,000			Reject: Daylighting provided to meet WSSP and educational needs.		
ES-66	Construct entire gym per design for the open gym/play structure portion and bid build-out as an alternate.	-1,523,000	C	-1,523,000			Reject: Does not meet the intent of the Site Specific Educational Specifications.		
Finish Interiors									
FI-63	Use resilient flooring in lieu of wood flooring at the gym.	-17,000	A	-17,000			Reject: wood flooring is per SPS Technical Building Standards.		
FI-76	Retain existing magnesite stair treads and protect with a sanded epoxy paint finish.	-24,000	C	-24,000			Reject: see Accepted Item FI-78.		
FI-78	Install rubber treads and raisers over magnesite stairs.	-20,000	C*	-20,000		-20,000	Accept: providing a rubber stair 'runner' minimizes work on 1930 magnesite and provides a quieter, durable surface.		
Landscape Site									
LS-10	Replace existing concrete paving on west side of building with asphalt paving.	49,000	C		+49,000		Reject: Not in budgeted work scope.		
Organize Site									
OS-15	Construct a standalone covered play west of the gym addition.	65,000	R		+65,000		Accept: providing at south of gym addition.		
TOTAL OF COSTS (Minus Mutually Exclusive Alternatives)					-\$1,884,000	\$138,000		-\$204,000	\$89,000

* Mutually exclusive with FI-76

Implementation Code

- A Accept
- PA Partially Accept
- C Consider Further
- R Reject

Plus amounts to be implemented from Value Improvements Matrix	-\$253,000	\$0
TOTAL Cost Avoidance + Cost Additions	-\$457,000	\$89,000
il Recommendations to be Implemented		-\$368,000

OTHER RECOMMENDATIONS

**Bagley Elementary School
Seattle Public Schools**

ARCHITECT'S RESPONSE & RECOMMENDATIONS

May 15, 2018

Report Loc'n	Item #	Description	
Page 4	Other-1	Give the signature tree adjacent to the classroom addition more breathing room	The classroom wing foundations have been moved away from the tree to meet the arborist's recommendations and as agreed in the field with the arborist. Additionally, a proposal to use soil nails to protect the tree roots during excavation for the new CR wing was reviewed with the arborist and is under development by Lydig.
Page 4	Other-2	Make accommodations for master plan future expansion	A new electrical room is located in the CR basement, this provides space for upsized/additional equipment. Note that future additions will likely require secondary electrical rooms/panel closets for optimal circuiting. In consideration of the Classroom stairway, a future Classroom addition to meet the 650 student ed spec will require a 2 hour building separation wall and will need 2 stairways on that side of the wall. The option was to build the 2 hour wall and a 'relocatable' stairway as part of this project, but that would further tax the current budget.
Page 4	Other-3	Eliminate the mechanical mezzanines on the existing building roof.	This is implemented in the current design
Page 4	Other-4	Complete invasive inspection and testing of the existing brick veneer tie-backs, strength of building structure concrete, and condition of the cast stone window mullions to clarify bid requirements and detailing.	See discussions in the following two items below. Also see ES-85 for elimination of the helical pinning, and ES24 for repair and replacement of cast stone window mullions, both of which were ACCEPTED.
Page 4	Other-5	Investigate where seismic upgrades to the brick veneer are needed and invest in a complete seismic tieback now rather than completing a partial job.	Subsequent investigation of brick tie backs led to the assessment by KPFF that the original veneer ties are in place and were still effective. Brick veneer above the entrances was accomplished in a recent project at Bagley. Brick veneer tie back was deleted from the project pricing.
Page 4	Other-6	Repair the precast stone mullions in place and add a compression joint to additional mullions at risk.	Subsequent investigation of cast stone led to the current approach: budgeting 5 to 10% replacement of failed pilasters. The rest will have cracks repaired and all will have a compression joint cut into to the top of the cast stone pilaster to reduce dead load as recommended by the VE team.
Page 4	Other-7	Use the existing mechanical tunnels as much as possible for MEP distribution and minimize the use of the existing attic area for distribution.	After Design Development phase investigation and analysis the existing tunnels will be used for HVAC supply, hydronic piping, domestic water piping and electrical conduit. The attic will be used for HVAC exhaust and low voltage cable tray.
Page 4	Other-8	Evaluate if estimate unit pricing is adjusted for anticipated market conditions and if not, include a 10% contingency factor for market uncertainty.	Market conditions contingency has been identified and updated in subsequent estimates
Page 4	Other-9	Bid additional classrooms as additive alternates.	The current budget most certainly will not accommodate additional classrooms as an alternate, so this would not be a good use of resources.

Page 4	Other-10	Develop a strategy to increase the construction duration to 14-16 months, particularly for the renovation.	With the GCCM project delivery method, the project will be bid several months prior to the start of on-site construction, and the contract will be executed in sufficient time to order early lead items, effectively increasing the construction duration by 2 or more months. Due to the limited window of availability for the John Marshall transition sitel, further increasing the construction timeline is not feasible.
Page 8 & 9	Other-11	Building Exterior Closure System contributing greater-than-typical cost to the project	<p>Building Exterior Solid Enclosure: Subsequent to the VE study several cost reduction approaches were implemented: the amount of exposed concrete stem wall was reduced, the gym addition was revised with GCCM input to a precast insulated concrete panel. The classroom addition remains basic metal framing/gyp sheathing/air & water barrier/rigid insulation/ metal siding assesmbly.</p> <p>Building Exterior Glazing Percentage: Subsequent to the SD-VE the area of glazing has been reduced by over 30%. After these changes the glazing percentage at additions is 24% at the Classroom Wing and 6% at the Gym.</p>