Board of Education Informational Report

MEMORANDUM

Date: **January 24, 2017**

To: Members of the Board of Education

From: Courtney Wilton, Interim Chief Operating Officer

Subject: Environmental Health and Safety Facility Improvements

---

This Memorandum provides a brief explanation of the process used by PPS staff to quantify the estimated cost of the district's most pressing environmental health and safety facility needs and also prioritize these needs for inclusion into a future general obligation bond request. For context, PPS has a large number of schools spread across Portland. This analysis includes ninety separate locations and approximately 10m square feet (See **Appendix A**). These locations included all existing schools except those that have or will be renovated by the 2012 bond (Franklin, Roosevelt, Grant and Faubion), those planned to be included for renovation in the 2017 bond request (Benson, Lincoln, Madison and Kellogg) and Blanchard administrative facility. It also included a number of leased or currently vacant sites which may in the future revert back to PPS operation. It should be noted the vast majority of these buildings are older with an average age of 76 years (See **Appendix B**). Maintenance of these facilities has been deferred to a large extent over many years and their overall condition is considered fair to poor. The vast majority of these structures were also constructed at a time when building standards were much less demanding than the current code. Total safety needs are very significant as a result.

Eleven separate health and safety areas were identified and considered highest risk based on an analysis factoring in estimated hazard severity, frequency and also feedback from the PPS board. The cost of fully mitigating this risk for all locations was then calculated using a variety of methods and information sources including estimates provided directly by professional consultants (lead in water and paint), prior comprehensive reviews (seismic, ADA, Roofing) and the PPS internal facility database. A professional cost estimator was also used to help update prior year costs, calculate contingencies, and estimate inflation. The total cost to mitigate all risks was then calculated and is estimated at approximately $1.6 billion. See **Appendix C** for detail by area and overall total.

Once total needs were calculated staff went through a number of prioritization exercises to size the total requirements to available bond resources, estimated at $100m, $150m and $200m, respectively. All of these safety needs are obviously very important and there exists no perfect way to prioritize. Methods used to prioritize included reducing need across the board, allocating resources based solely on risk, focusing dollars based on public awareness or by resulting operational savings, clustering improvements based on construction economies of scale or efficiencies, and finally prioritizing those improvements that are readily achievable and implemented in the near future. Ultimately what's being recommended by staff is a hybrid of these approaches, one that prioritizes several risk areas in their entirely (Radon and lead in water and paint), acknowledges the high risk posed by the district's current

fire life safety system, makes very meaningful progress in abating asbestos, devotes significant dollars towards pending roof replacement at twenty six buildings and at $150m establishes a placeholder for ADA and school security improvements. At $200m additional amounts are allocated for ADA and seismic improvements. No dollars were allocated towards stage safety and playground upgrades in any scenario; some, though not substantial, progress can be made on these fronts via grants and the district's annual capital budget. It's also important to note that the bond's modernization budget includes a very significant portion – in the range of 30% or around $175m - of its budget devoted towards health and safety including sizable seismic and ADA components. These type improvements are also generally most efficiently made when part of a larger renovation – like a full scale modernization – vs. piecemeal. **Appendix D** details proposed safety allocations under the three scenarios.

We welcome questions and further review.

Appendix A – List of School Sites Included in Evaluation

FACILITY	Current Use	Year Constucted	SF Floor Area	Number of Stories
Abernethy	Elementary	1925	65,897	3
Ainsworth	Elementary	1912	85,070	3
Ainsworth Annex	Elementary	1962	8,202	1
Alameda	Elementary	1921	103,809	2
Applegate	Elementary	1954	26,101	1
Arleta	Elementary	1929	138,609	2
Astor	Elementary	1949	94,552	1
Atkinson	Elementary	1952	96,738	1
Beach	Elementary	1928	71,299	3
Beaumont	Middle	1926	130,027	2
Boise-Eliot	Elementary	1926	69,097	2
Bridger	Elementary	1951	84,602	1
Bridlemile	Elementary	1958	107,810	1
Buckman	Elementary	1921	126,861	3
Capitol Hill	Elementary	1917	102,247	2
Chapman	Elementary	1923	103,945	3
Chavez	Middle	1928	132,590	2
Chief Joseph	Elementary	1949	86,650	1
Clarendon	Pre-K	1970	47,063	1
Clark / Creative Science School	Elementary	1955	88,906	1
Cleveland	High	1928	351,185	3
Columbia	Tenant	1937	48,306	2
Creston	Elementary	1948	131,931	1
Creston Annex	Elementary	1953	10,175	1
Duniway	Elementary	1926	145,731	2
East Sylvan / Odyssey	Elementary	1933	24,986	2
Fernwood / Beverly Cleary	Middle	1911	124,441	3
Forest Park	Elementary	1998	71,242	1
George	Middle	1950	162,187	1
Glencoe	Elementary	1923	98,859	2
Gray	Middle	1952	129,941	1
Green Thumb	Special Education	1986	32,767	1
Grout	Elementary	1927	114,314	3
Harrison Park	Elementary	1949	207,101	1
Hayhurst	Elementary	1954	93,585	1
Holladay Center	Special Education	1972	60,393	1
Hollyrood	Elementary	1958	30,195	1
Hosford	Middle	1925	127,915	3
Humboldt	Elementary	1959	82,245	1

Irvington	Elementary	1932	93,816	2
Jackson	Middle	1966	326,155	2
James John	Elementary	1929	63,725	2
Jefferson	High	1909	300,955	4
Kelly	Elementary	1952	152,653	1
Kelly Learning Center	Special School	1969	14,651	
Kenton	Tenant	1913	52,363	3
King	Elementary	1925	192,551	2
Lane	Middle	1927	94,866	2
Laurelhurst	Elementary	1923	90,292	2
Lee	Elementary	1953	111,104	1
Lent	Elementary	1949	141,329	1
Lewis	Elementary	1952	85,366	1
Llewellyn	Elementary	1928	112,510	2
Maplewood	Elementary	1948	58,783	1
Markham	Elementary	1951	145,590	1
Marshall	High	1960	271,427	3
Marysville	Elementary	1921	110,227	1
Meek / Alliance	Elementary	1953	61,960	1
MLC	Special School	1914	80,635	3
Monore / Davinci Arts	Special School	1928	102,002	3
Mt. Tabor	Middle	1952	162,767	1
Ockley Green	Elementary	1925	106,806	2
Peninsula	Elementary	1952	113,193	1
Richmond	Elementary	1908	96,934	1
Rieke	Elementary	1961	52,385	1
Rigler	Elementary	1931	112,806	2
Rosa Parks	Elementary	2006	102,995	2
Rose City Park	Elementary	1912	100,877	3
Roseway Heights	Middle	1923	155,619	2
Sabin	Elementary	1928	100,611	3
Sacajawea	Pre-K	1952	18,751	1
Scott	Elementary	1949	117,296	1
Sellwood	Middle	1914	115,267	3
Sitton	Elementary	1949	109,329	1
Skyline	Elementary	1939	45,612	2
Smith	Elementary	1958	38472	
Stephenson	Elementary	1965	72,302	1
Sunnyside	Elementary	1925	97,919	2
Terwilliger	Tenant	1916	24,646	1
Tubman	Middle	1954	120,571	2
Vernon	Elementary	1931	116,436	3

Vestal	Elementary	1929	149,695	2
West Sylvan	Middle	1954	209,247	2
Whitman	Elementary	1954	109,211	1
Wilson	High	1954	365,559	3
Winterhaven	Elementary	1930	39,084	2
Woodlawn	Elementary	1926	131,805	1
Woodmere	Elementary	1954	142,748	1
Woodstock	Elementary	1910	121,287	1
Youngson	Elementary	1955	55,969	1
	90		**9,786,734**	

Appendix B – Age of PPS Schools

Age of Construction	Count	Percent
0-20	2	2%
21-40	1	1%
41-60	12	13%
61-80	32	36%
81-100	33	37%
100+	10	11%
Total	90	100%

Average Age: 76 Years

Appendix C – Hazard Area / Cost Analysis / Cost Data Source

EHS Capital Planning Program Cost Analysis

Summary of Program Costs 2017-2023 Rev. 8

Project Area	Project Costs	Possible Number of Schools Funded*	Cost Data Source
Improve building foundations and ventilation to mitigate radon levels	$ 1,126,125	30	ACC Cost Estimate 11/2016, based on 2016 PPS Risk Management Database.
Repair unsafe auditorium stages	$ 6,177,133	37	Auditorium Stage Safety- ACC Cost Estimate 11/2016, based on 2008-13 PPS FAM Inspection Reports and Needs Assessments.
Remove or encapsulate exposed lead paint	$ 16,623,936	88	PBS Environmental Report and Cost Estimate 12/2016.
Remove or encapsulate exposed asbestos	$ 21,297,466	88	ACC Cost Estimate 12/2016, based on 2016 PPS Risk Management Database.
Replace old pipes and fixtures to reduce lead and improve water quality	$ 28,492,000	90	CH2M Report and Cost Estimate 12/2016.
Improve playground safety and accessibility	$ 37,243,490	73	ACC Cost Estimate 12/2016, based on 2016 Faubion Modernization Playground Costs.
Improve ADA accessibility	$ 100,680,717	90	ACC Cost Estimate 11/2016, based on 2013 Akrom Moisan Architects ADA Assessment with Cost Estimate.
Updated fire safety alarms and sprinkler system	$ 131,459,611	84	ACC Cost Estimate 12/2016, based on 2016 PPS FAM Inventory of Existing Conditions.
Strengthen school safety and security	$ 54,254,027	90	Triad Consulting Cost Estimate 12/2016 and ACC Cost Estimate 11/2016, based on PPS Security Specifications.
Fix leaky and deteriorating roofs, exterior walls, or windows	$ 311,485,127	90	ACC Cost Estimate 11/2016, based 2014 on PPS FAM Existing Conditions Assessment and 2008-13 Professional Roof Consultants, Inc. Assessments (Roofs) and ACC Cost Estimate 12/2016 based on 2016 PPS FAM Inventory (Building Envelopes).
Make seismic upgrades	$ 934,959,273	90	ACC Cost Estimate 11/2016, based on 2009 KPFF Consulting Engineers Seismic Assessment and Approximate Cost Data Extrapolated for All Facilities.
Total	**$ 1,643,798,906**		

*Number of sites based on identified need.

NOTES:

1. Total cost includes cost of work, soft costs, contingencies for estimating, program and design, and construction, and escalation due to inflation and market conditions.

2. Contingencies based on cost of work in 2017 dollars.

3. Assumes 90 school sites.

4. Assumes 6 year bond program 2017-2023.

Appendix D – EHS Capital Projects Program Cost and Proposed Allocation

EHS Capital Planning Program Cost Analysis

Staff Recommendation Rev. 8

Project Area	Assumed Project Costs	$100M	Number of Schools Funded	$150M	Number of Schools Funded	$200M	Number of Schools Funded
Improve building foundations and ventilation to mitigate radon levels	$ 1,126,125	$ 1,126,125	Up to 30	$ 1,126,125	Up to 30	$ 1,126,125	Up to 30
Repair unsafe auditorium stages	$ 6,177,133	$ -	..	$ -	…	$ -	…
Remove or encapsulate exposed lead paint	$ 16,623,936	$ 16,623,936	Up to 88	$ 16,623,936	Up to 88	$ 16,623,936	Up to 88
Remove or encapsulate asbestos	$ 21,297,466	$ 9,000,000	Up to 37	$ 12,000,000	Up to 48	$ 14,000,000	Up to 58
Replace old pipes and fixtures to reduce lead and improve water quality	$ 28,492,000	$ 28,492,000	Up to 90	$ 28,492,000	Up to 90	$ 28,492,000	Up to 90
Improve playground safety and accessibility	$ 37,243,490	$ -	…	$ -	…	$ -	…
Improve ADA accessibility*	$ 100,680,717	$ 5,000,000	Up to 4*	$ 10,000,000	Up to 9*	$ 15,000,000	Up to 13*
Updated fire safety alarms and sprinkler system	$ 131,459,611	$ 19,757,939	Up to 13	$ 25,849,990	Up to 16	$ 31,757,939	Up to 20
Strengthen school safety and security	$ 54,254,027	$ -	…	$ 5,000,000	Up to 11	$ 8,000,000	Up to 13
Fix leaky and deteriorating roofs, exterior walls, or windows	$ 311,485,127	$ 20,000,000	Up to 5	$ 50,907,949	Up to 14	$ 80,000,000	Up to 23
Make seismic upgrades	$ 934,959,273	$ -	…	$ -	…	$ 5,000,000	Up to 2
Total	**$ 1,643,798,906**	**$ 100,000,000**		**$ 150,000,000**		**$ 200,000,000**	

*Locations funded may be greater if less extensive improvements implemented.