



To: Dr. Mike Riggle
Board of Education

From: Dr. Kimberly Ptak
Dr. R.J. Gravel

Date: Monday, February 27, 2017

Re: Award of Summer 2017 Life Safety and District-Funded Construction Bids

Recommendation

It is recommended that the Board of Education approve the life safety and district-funded construction bids as presented. Overall bids were \$186,067 or 3% under the original estimate.

	Original Estimate			Actual Bids Received	Difference
	Project Estimate	2% Bidding/Market Contingency	Total Estimate		
Life Safety Projects	\$5,518,000	\$110,360	\$5,628,360	\$5,459,313	(\$169,047)
Paving & Concrete Projects	\$111,000	\$2,220	\$113,220	\$99,000	(\$14,220)
GBN Classrooms	\$365,000	\$7,300	\$372,300	\$369,500	(\$2,800)
<i>Total</i>	\$5,994,000	\$119,880	\$6,113,880	\$5,927,813	(\$186,067)

(3%)

Background

As part of the overall facilities planning cycle, building and district leadership teams reviewed recommended capital projects with the Facility Committee as well as the Board of Education. At the October 24, 2016 meeting, the Board authorized ARCON to develop and solicit bids for various projects falling into the categories of Life Safety, Paving & Concrete and GBN Classroom Reconfiguration.

Life Safety Projects

At the June 25, 2016 regular meeting, the Board approved submitting a \$15M life safety amendment to the State of Illinois. The amendment identifies building infrastructure needs and safety concerns and must be completed within three years in order to be funded by the Life Safety bond proceeds. A copy of the life safety amendment as submitted to the State in June, 2016 is attached.

Annual Paving and Concrete Projects

The district maintains a master paving schedule that plans for parking lot replacement every 15 years and general maintenance every 3 years. Planned summer of 2017 work includes seal coating various parking lots in accordance with the master schedule as well as the repair of various concrete paths.

Classroom Reconfiguration

As discussed at the October 24, 2016 Board of Education meeting, there are eight classrooms in the GBN “A” building that are only 575 square feet. Since these rooms are getting new mechanical systems as part of the life safety work, it is an opportune time to convert six of these eight classrooms into four larger spaces. The remaining two classrooms will remain 575 square feet, one will continue to be a classroom while the other will serve as a mechanical room for the new mechanical systems.

Bid Results

An advertisement to bid was posted on Thursday January 19, 2017 and a mandatory pre-bid meeting took place at Glenbrook North and Glenbrook South on Thursday February 2, 2017. There was a very strong bidder turnout and bids were opened on Wednesday February 15, 2017. The results of the bid activities are presented below:

		<i>Funding Source:</i>			
		Life Safety Bond Proceeds	District Operating Budget		
Trade	Low Bidder	Life Safety	Paving	GBN Classrooms	Total
Abatement	Universal	\$134,400			\$134,400
Bleachers / Equip.	Carroll	\$227,334			\$227,334
Electrical	Carey	\$711,100		\$75,400	\$786,500
General Flooring	Vortex	\$259,440			\$259,440
Gym Flooring	Kiefer	\$406,193			\$406,193
General	Monarch	\$328,500		\$290,900	\$619,400
HVAC	DeKalb	\$1,997,000			\$1,997,000
Painting	May	\$18,900		\$3,200	\$22,100
Paving and Concrete	Superior		\$99,000		\$99,000
Roofing	Riddiford	\$1,233,006			\$1,233,006
Windows	RWS	\$143,440			\$143,440
Total		\$5,459,313	\$99,000	\$369,500	\$5,927,813
<i>Prior Estimate (10/24/2016)</i>		<i>\$5,628,360</i>	<i>\$113,220</i>	<i>\$372,300</i>	\$6,113,880
Difference		(\$169,047)	(\$14,220)	(\$2,800)	(\$186,067)
					(3%)

Summary of Life Safety \$169,047 or 3% Variance

Because projects are bid by trade, not by individual project, it is difficult to compare actual bids results to the individual projects. Overall bids resulted in a cost savings of \$186,067 or 3% below the original estimate. Project related to our life safety projects contributed to the majority of the bid variance, coming in \$169,047 under the original estimate. A summary of the main projects contributing to this variance follows.

Trade Package	Variance Explanation	Actual vs. Estimate
Roofing	There are five roof areas at GBN recommended for replacement the summer of 2017. All areas have a built-up roof system with multiple layers of waterproofing and insulation. Three of the five areas have a base layer of insulation that is dry and can be reused, rather than replaced. Additionally, very competitive bids were received, there were nine roofing contractors and the low bidder is \$220K lower than the average bid.	(\$140,000)
Main Gym Floor	The original estimate included contingency funds for abatement should asbestos be found under the original gym floor. Testing for asbestos was negative, resulting in a lower bid than originally expected.	(\$50,000)
Flooring	The abatement low bid was \$75,000 lower than the next lowest bid and \$102,000 lower than the average bid.	(\$60,000)
Mechanical	Mechanical is a significant piece of this summer's life safety work. There is not one project making up this variance, rather it is comprised of the various mechanical projects slated for this summer. The difference is about 2% of the total estimate.	\$65,000
OC Windows	The low bid for window replacement at the Off Campus building came in \$10,000 higher than expected.	\$10,000
Other/Misc.	Various Trades/Projects	\$5,953
<i>Total</i>		(\$169,047)

Glenbrook High School District 225 - Life Safety Amendment - \$15M

LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
Roofing								
R-1	GBN	Roof Replacement	Training Room/Locker Room/Women's Locker Room	A built up roof system will be used, which offers multiple layers of waterproofing and protection. The base layer of insulation appears to be in good condition and can potentially be reused. Roof replacement recommended.	\$554,000	\$554,000		
R-2	GBN	Roof Replacement	Guidance/Activity Corridor	A built up roof system will be used, which offers multiple layers of waterproofing and protection. The base layer of insulation has several wet spots and likely cannot be reused. Roof replacement recommended.	\$406,000	\$406,000		
R-3	GBN	Roof Replacement	CPA House	The CPA House is 13,000 S.F. and was last replaced in 1993. These roof areas have reached the end of their serviceable life. The base layer of insulation appears to be in good condition and can potentially be reused. Roof replacement recommended.	\$426,000	\$426,000		
R-3	GBN	Roof Replacement	Fieldhouse	The Fieldhouse is 42,000 S.F. and was part of new construction in 1989. These roof areas have reached the end of their serviceable life. Roof replacement recommended.	\$1,194,000		\$1,194,000	
R-4	GBS	Roof Replacement	Fieldhouse	The Fieldhouse is 45,500 S.F. and was part of new construction in 1989. This roof area has reached the end of its serviceable life. Roof replacement recommended.	\$1,320,000		\$1,320,000	
R-5	GBS	Roof Replacement	Wrestling Student Activity Corridor	The Wrestling is 4,600 S.F. and was last replaced in 1989. The Student Activity Corridor is 8,400 S.F. and was last replaced in 1994. Roof replacement recommended.	\$432,000		\$432,000	
					\$4,332,000	\$1,386,000	\$2,946,000	\$0
Architectural								
A-38	GBN	Floor Replacement	Auxiliary Gyms (4)	The flooring in the four back gyms at GBN is original to the building and has reached the end of its useful life. Gym floor replacement recommended.	\$400,000			\$400,000
A-27	GBS	Floor Replacement	Main Gym	Flooring is original and has reached the end of its useful life. Floor will be replaced with a cushioned maple wood flooring system. Gym floor replacement recommended.	\$585,000	\$585,000		

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A-47	GBS	Bleacher Replacement	Main Gym	The bleachers in the main gym at GBS are original and in need of replacement. The recent bleacher inspection revealed that end rails, power operation wheels, connections and hardware warrant replacement. It is best to time this replacement with the replacement of the main gym floor. New bleachers will be in compliance with ADA standards. Bleacher replacement recommended.	\$350,000	\$350,000		
A-29	GBS	Floor Replacement	Lower Level Running Track	The lower level running track is original to the building and is cracking and deteriorating, which is creating a tripping hazard. The track is used for PE and athletic warm-ups. The existing floor contains mercury. Rather than tearing out the existing floor, abating and installing a new flooring system, the existing floor will be encapsulated and overlaid with a new floor. Overlay and encapsulate existing floor with new floor is recommended.	\$55,000	\$55,000		
A-45	GBS	Address Slab Settling	Corridor W of Cafeteria	The existing concrete slab is showing signs of settlement, causing the carpet to tear. This creates a tripping hazard. Recommendation under review.	\$50,000		\$50,000	
A-48	GBS	Carpet Replacement	Various Areas	There are several areas in the building with carpeting that is 30+ years old and has asbestos underneath. This will abate the area and replace the carpeting in the remaining known 39 classrooms. Summer school is at GBS summer of 2017, so only classrooms in the "old pit" area which are not impacted from summer school will be addressed. Remaining rooms will be addressed the summer of 2018. Asbestos abatement and carpet replacement recommended.	\$500,000	\$200,000	\$300,000	
A-44	GBN	Carpet Replacement	Various Areas	There are several areas in the building with carpeting that is 30+ years old and has asbestos underneath. This will abate the area and replace the carpeting. This will address of all remaining known asbestos under carpeted areas. Asbestos abatement and carpet replacement recommended.	\$244,000	\$244,000		
A-45	GBN	Ceiling Replacement	Various Areas	There are several areas in the building with ceilings that contain asbestos. This will abate the area and replace the ceiling. This will address the rest of the remaining known asbestos ceilings. Asbestos abatement and ceiling tile replacement recommended.	\$110,000	\$110,000		

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
A-57	GBS	Track Repair	Outside Track	The existing track is heaving due to an underground storm pipe. To correct this, sections of the pavement and flowable fill will be removed. Fill will be replaced with stone and pavement/track surface will be patched. Track repair and patching recommended.	\$60,000	\$60,000		
A-49	GBN	Create Rated Separation	Girls Varsity Locker Room	A rated separation is required between a storage room and locker room. This project will install a rated wall to separate storage, to replace the existing metal gate. Fire rated separation wall between storage room and locker room recommended.	\$9,500	\$9,500		
A-06	OC	Window Replacement	Throughout Building	The windows at 1835 Landwehr Rd, the building used for Off Campus and Evening High School are original to the building. The windows leak air, water and are not energy efficient. Window replacement recommended.	\$130,000	\$130,000		
A-04	GBN	Replace door and/or Hardware	Various Areas	There are various doors that do not open without excessive force and/or do not latch without effort, resulting in egress concerns. Door and/or hardware replacement recommended.	\$50,000	\$50,000		
A-03	GBS	Replace door and/or Hardware	Various Areas	There are various doors that do not open without excessive force and/or do not latch without effort, resulting in egress concerns. This project replaces doors and/or hardware. Door and/or hardware replacement recommended.	\$50,000	\$25,000	\$25,000	
					\$2,593,500	\$1,818,500	\$375,000	\$400,000
Electrical								
E-3	GBS	Arc Flash Project	Electrical Panels	It is an OSHA requirement to conduct an arc flash study of a workplace facility by a licensed engineer to determine the level of hazard & risk in relation to electrical systems. The arc flash hazard analysis calculation will be performed on all electrical panels to identify and label hazards as well as provide overall recommendations and required personal protective equipment. Arc flash study, analysis, labeling and report recommended.	\$60,000	\$60,000		
E-2	GBN	Arc Flash Project	Electrical Panels	It is an OSHA requirement to conduct an arc flash study of a workplace facility by a licensed engineer to determine the level of hazard & risk in relation to electrical systems. The arc flash hazard analysis calculation will be performed on all electrical panels to identify and label hazards as well as provide overall recommendations and required personal protective equipment.	\$60,000	\$60,000		

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E-4	GBS	Replace transformers	Various Areas	<p>Arc flash study, analysis, labeling and report recommended.</p> <p>Transformers located throughout the building's academic wing are original to the building, in a poor location (janitor's closet with water, etc.)</p> <p>Transformer replacement and relocation recommended.</p>	\$160,000		\$160,000	
E-08	GBN	Add carbon monoxide detectors	Various Areas	<p>Furnish carbon monoxide detectors within 20 feet of any carbon monoxide emitting device. Connect to fire alarm system. This is a new state standard.</p> <p>Installation of carbon monoxide detectors tied into fire alarm system is recommended.</p>	\$10,000	\$10,000		
E-12	GBS	Add carbon monoxide detectors	Various Areas	<p>Furnish carbon monoxide detectors within 20 feet of any carbon monoxide emitting device. Connect to fire alarm system. This is a new state standard.</p> <p>Installation of carbon monoxide detectors tied into fire alarm system is recommended.</p>	\$10,000	\$10,000		
E-8	GBS	Upgrade Fire Alarm System	Auditorium Basement Fire Alarm	<p>The auditorium and basement gymnasium has a subpanel that comes into conflict with the newer head-end installed in 2013. The fire alarm devices need to be changed out to correlate with the new headend.</p> <p>Replace fire alarm devices and improve communication with newer head-end is recommended.</p>	\$230,000		\$230,000	
E-9	GBS	Replace Fire Alarm Devices and Wiring	Academic Areas	<p>The current system is a mix of old and new fire alarm devices. The old devices are zoned and the new are addressable - all need to be upgraded to the newer addressable devices.</p> <p>Upgrade all fire alarm devices from zoned to addressable is recommended.</p>	\$420,000		\$420,000	
E-10	GBS	Replace Fire Alarm Devices and Wiring	Gym, FH, Old Pool	<p>The current system is a mix of old and new fire alarm devices. The old devices are zoned and the new are addressable - all need to be upgraded to the newer addressable devices.</p> <p>Upgrade all fire alarm devices from zoned to addressable is recommended.</p>	\$170,000		\$170,000	
E-12	GBN	Repair Intercom System	Throughout School	<p>There are certain components of the intercom system providing faults and overall communication and connection issues. Cost is to repair certain components and replace head-end unit and clock system.</p> <p>Replace head-end unit and repair various components of intercom system is recommended.</p> <p>Replace clock system with wireless clocks.</p>	\$125,000			\$125,000

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
E-14	GBN	Replace Fire Alarm Devices and Wiring	Throughout School	Fire alarm initiating devices are reaching the end of their useful life. Cost is to replace all heat and smoke detectors with new. Replace fire alarm initiating devices recommended.	\$50,000	\$50,000		
E-17	GBS	Rebuild Electrical Distribution System	Mechanical Equipment Room	Existing electrical distribution equipment is older and exceeds the six switch rule. This project will rebuild the distribution equipment and include main circuit breaker. Rebuild the electrical distribution system and include a new main circuit breaker is recommended.	\$60,000		\$60,000	
E-19	GBS	New Main Circuit Breaker	Main Electrical Service	Electrical service has a Pringle main bolted pressure switch. These switches have a known failure to re-close after fault or manual opening. Replace bolted pressure switch with new 100% rated main circuit. Replace bolted pressure switch with new 100% rated main circuit is recommended.	\$50,000		\$50,000	
E-10	GBN	New Main Circuit Breaker	Main Electrical Service	Electrical service has a Boltswitch main bolted pressure switch. These switches have a known failure to re-close after fault or manual opening. Replace bolted pressure switch with new 100% rated main circuit. Replace bolted pressure switch with new 100% rated main circuit is recommended.	\$50,000	\$50,000		
E-13	GBN	Rebuild Interior of Electrical Service	Main Electrical Service	Electrical service is original service in facility dating to 1953. Due to significant work occurring at GBN summer of 2017 and summer school occurring at GBN summer of 2018, this project will occur summer of 2019. Replace all interior components of the original building electrical service (circuit breakers, fuses) is recommended.	\$70,000			\$70,000
					\$1,525,000	\$240,000	\$1,090,000	\$195,000
Mechanical								
M-1	GBS	Hot Water Expansion Tanks & Temperature Control Valve Replacement	Mechanical Room	In 2008, the 3 main hot water boilers for the overall heating system, were replaced with 10 modular boilers. The expansion tank system was not upgraded to best support the new modular boiler system. It is not supporting the system properly which results in leaks throughout the building. This cost will replace the expansion tank system. As a result of the expansion tank not working properly, the temperature control valves have higher stress and are now approaching the end of their useful life and need to be replaced. Replace expansion tank and control valves is recommended.	\$265,000		\$265,000	

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M-1	GBN	Replace window unit ventilators	Various	<p>There are approximately 20 classrooms and the Spartan conference room served by unit ventilators that are over 20 years old. The units have original controls and are subject to failure. In addition it is difficult to maintain the proper temperature control and there are noise concerns in the classrooms with these units.</p> <p>Replace unit ventilators in the academic wing with an AHU and in the arts area with new, vertical unit ventilators.</p>	\$690,000	\$690,000		
M-1	OC	Replace hot water boilers	Boiler Room	<p>The existing gas fired hot water boilers are over 40 years old and showing signs of deterioration. Loss of the boilers would result in loss of heat to the entire building.</p> <p>Replace modular gas fired hot water boilers with new modular boilers is recommended.</p>	\$190,000	\$190,000		
M-4	GBS	Add exhaust system	Orchestra Pit	<p>Due to the potential for dampness in the orchestra pit an exhaust system is recommended.</p> <p>Purchase of an exhaust system is recommended.</p>	\$7,500		\$7,500	
M-9	GBS	Replace Dampers	Main Gym	<p>Snow and rain are infiltrating through the barometric relief dampers above the main gym floor. Games have had to be cancelled due to this issue. This project should be tied in with the replacement of the new gym floor.</p> <p>Replacement of barometric relief dampers is recommended.</p>	\$128,000	\$128,000		
M-11	GBS	Add exhaust system	Home Economics	<p>There is currently not an exhaust system in the home economics room. This was sited during an ROE inspection. This cost adds the exhaust.</p> <p>Purchase of an exhaust system is recommended.</p>	\$20,000		\$20,000	
M-14	GBS	Add exhaust grill to tie into existing exhaust system	Auditorium	<p>There is a sump pump for the sanitary line in a closet in the basement of the auditorium. This fills with sewer gas, the exhaust would relieve the smell which infiltrates into the auditorium. This project will add an exhaust grill to tie into the existing exhaust system.</p> <p>Purchase of an exhaust grill to be tied into the existing exhaust system is recommended.</p>	\$15,000		\$15,000	
M-20	GBS	Replace/Retrofit Pool Dehumidification System	Natatorium	<p>The current Innovent system which provides the dehumidification and temperature control in the natatorium is 8 years old and is not working properly and the refrigerant compressors have failed numerous times resulting in a significant repair cost.</p> <p>Repair and recommissioning of dehumidification system is recommended.</p>	\$145,000		\$145,000	

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
M-2	GBN	Replace/Retrofit Pool Dehumidification System	Natatorium	The current Dectronics system which provides the dehumidification and temperature control in the natatorium is at the end of its useful life. Replacement of dehumidification system is recommended.	\$760,000		\$760,000	
M-3	GBN	Replace Air Handling System	Auxiliary Gyms	The auxiliary gyms are served by original air handling units that are over 40 years old and have the original controls. Failure would result in a loss of heating and ventilation. Replacement of mechanical system is recommended.	\$480,000	\$480,000		
M-5	GBN	Replace Air Handling System	CPA	The CPA is served by original air handling units that are over 40 years old and have the original controls. Failure would result in a loss of heating and ventilation. Replacement of mechanical system is recommended.	\$370,000	\$370,000		
M-6	GBN	Replace Air Handling System	Scene Shop	The scene shop is served by an original air handling unit that is over 40 years old and has the original controls. Failure would result in a loss of heating and ventilation. Replacement of mechanical system is recommended.	\$150,000	\$150,000		
M-7	GBS	Replace Chiller Drive	Chiller Room	The drive on the main chiller plant is non operational which does not give efficient temperature control. This project replaces the drive. A chiller drive replacement is recommended.	\$200,000		\$200,000	
M-8	GBS	Replace Air Handler	Math Wing	The air handler is undersized, especially during the cooling season and the system has a difficult time satisfying demand. The air handler is over 25 years old and the cooling coil on this air handler has been compromised. Two major coil repairs have taken place which drastically decreased capacity. Replacement of mechanical system is recommended.	\$120,000		\$120,000	
M-16	GBS	Replace Rooftop Exhaust Fans	Fieldhouse	The existing rooftop exhaust fans are failing. The fans are required to maintain the proper static pressure in the fieldhouse along with the ventilation supply fans. Replacement of exhaust fans is recommended.	\$67,500		\$67,500	
M-21	GBN	Replace Valve	Mechanical Tunnels	The existing pressure and temperature relief valve on the heat exchanger is showing signs of age and needs to be replaced. Valve replacement is recommended.	\$20,000	\$20,000		
					\$3,628,000	\$2,028,000	\$1,600,000	\$0

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Fire Protection								
FP1	GBS	Sprinkler Head Replacement	Various Areas	There are several areas where the sprinkler is corroded and needs to be replaced and/or additional sprinkler heads need to be added. Replace and/or add sprinkler heads is recommended.	\$15,000	\$15,000		
FP1	GBN	Sprinkler Head Replacement	Various Areas	There are several areas where the sprinkler is corroded and needs to be replaced and/or additional sprinkler heads need to be added. Replace and/or add sprinkler heads is recommended.	\$17,000	\$17,000		
					\$32,000	\$32,000	\$0	\$0
Plumbing								
P-7	GBS	Modify Hot Water Return	Home Economics	The domestic hot water line is not providing hot water into the home economics classrooms, which is needed for cleaning and sanitizing cooking equipment and hand washing. Modification of hot water return system and add booster heat is recommended.	\$24,000		\$24,000	
P-3	GBS	Replace Old Piping	East Pool Filter Room	Piping is rusting due to corrosive environment from chlorine. Replace rusted piping is recommended.	\$13,500	\$13,500		
P-4	GBN	Replace Filtration System	Natatorium	The old pool filtration system is over 40 years old and in poor condition due to corrosion and age. Replacement of pool filtration system and surge tank is recommended.	\$210,000		\$210,000	
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					\$457,500	\$13,500	\$444,000	\$0
Subtotal for All Project Areas					\$12,568,000	\$5,518,000	\$6,455,000	\$595,000
2% Design Contingency					\$251,360	\$110,360	\$129,100	\$11,900
Subtotal for Bidding					\$12,819,360	\$5,628,360	\$6,584,100	\$606,900
Fees/Construction Contingency					\$2,180,832	\$954,614	\$1,122,715	\$102,935
Grand Total					\$15,000,192	\$6,582,974	\$7,706,815	\$709,835

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A-29	GBS	Floor Replacement	Lower Level Running Track	<p>The lower level running track is original to the building and is cracking and deteriorating, which is creating a tripping hazard. The track is used for PE and athletic warm-ups. The existing floor contains mercury. Rather than tearing out the existing floor, abating and installing a new flooring system, the existing floor will be encapsulated and overlaid with a new floor.</p> <p>Overlay and encapsulate existing floor with new floor is recommended.</p>	\$55,000	\$55,000		
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A-48	GBS	Carpet Replacement	Various Areas	<p>There are several areas in the building with carpeting that is 30+ years old and has asbestos underneath. This will abate the area and replace the carpeting in the remaining known 39 classrooms. Summer school is at GBS summer of 2017, so only classrooms in the "old pit" area which are not impacted from summer school will be addressed. Remaining rooms will be addressed the summer of 2018.</p> <p>Asbestos abatement and carpet replacement recommended.</p>	\$500,000	\$200,000	\$300,000	
A-44	GBN	Carpet Replacement	Various Areas	<p>There are several areas in the building with carpeting that is 30+ years old and has asbestos underneath. This will abate the area and replace the carpeting. This will address of all remaining known asbestos under carpeted areas.</p> <p>Asbestos abatement and carpet replacement recommended.</p>	\$244,000	\$244,000		
A-45	GBN	Ceiling Replacement	Various Areas	<p>There are several areas in the building with ceilings that contain asbestos. This will abate the area and replace the ceiling. This will address the rest of the remaining known asbestos ceilings.</p> <p>Asbestos abatement and ceiling tile replacement recommended.</p>	\$110,000	\$110,000		

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
A-57	GBS	Track Repair	Outside Track	The existing track is heaving due to an underground storm pipe. To correct this, sections of the pavement and flowable fill will be removed. Fill will be replaced with stone and pavement/track surface will be patched. Track repair and patching recommended.	\$60,000	\$60,000		
A-49	GBN	Create Rated Separation	Girls Varsity Locker Room	A rated separation is required between a storage room and locker room. This project will install a rated wall to separate storage, to replace the existing metal gate. Fire rated separation wall between storage room and locker room recommended.	\$9,500	\$9,500		
A-06	OC	Window Replacement	Throughout Building	The windows at 1835 Landwehr Rd, the building used for Off Campus and Evening High School are original to the building. The windows leak air, water and are not energy efficient. Window replacement recommended.	\$130,000	\$130,000		
A-04	GBN	Replace door and/or Hardware	Various Areas	There are various doors that do not open without excessive force and/or do not latch without effort, resulting in egress concerns. Door and/or hardware replacement recommended.	\$50,000	\$50,000		
A-03	GBS	Replace door and/or Hardware	Various Areas	There are various doors that do not open without excessive force and/or do not latch without effort, resulting in egress concerns. This project replaces doors and/or hardware. Door and/or hardware replacement recommended.	\$50,000	\$25,000	\$25,000	
					\$2,593,500	\$1,818,500	\$375,000	\$400,000
Electrical								
E-3	GBS	Arc Flash Project	Electrical Panels	It is an OSHA requirement to conduct an arc flash study of a workplace facility by a licensed engineer to determine the level of hazard & risk in relation to electrical systems. The arc flash hazard analysis calculation will be performed on all electrical panels to identify and label hazards as well as provide overall recommendations and required personal protective equipment. Arc flash study, analysis, labeling and report recommended.	\$60,000	\$60,000		
E-2	GBN	Arc Flash Project	Electrical Panels	It is an OSHA requirement to conduct an arc flash study of a workplace facility by a licensed engineer to determine the level of hazard & risk in relation to electrical systems. The arc flash hazard analysis calculation will be performed on all electrical panels to identify and label hazards as well as provide overall recommendations and required personal protective equipment.	\$60,000	\$60,000		

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
E-4	GBS	Replace transformers	Various Areas	<p>Arc flash study, analysis, labeling and report recommended.</p> <p>Transformers located throughout the building's academic wing are original to the building, in a poor location (janitor's closet with water, etc.)</p> <p>Transformer replacement and relocation recommended.</p>	\$160,000		\$160,000	
E-08	GBN	Add carbon monoxide detectors	Various Areas	<p>Furnish carbon monoxide detectors within 20 feet of any carbon monoxide emitting device. Connect to fire alarm system. This is a new state standard.</p> <p>Installation of carbon monoxide detectors tied into fire alarm system is recommended.</p>	\$10,000	\$10,000		
E-12	GBS	Add carbon monoxide detectors	Various Areas	<p>Furnish carbon monoxide detectors within 20 feet of any carbon monoxide emitting device. Connect to fire alarm system. This is a new state standard.</p> <p>Installation of carbon monoxide detectors tied into fire alarm system is recommended.</p>	\$10,000	\$10,000		
E-8	GBS	Upgrade Fire Alarm System	Auditorium Basement Fire Alarm	<p>The auditorium and basement gymnasium has a subpanel that comes into conflict with the newer head-end installed in 2013. The fire alarm devices need to be changed out to correlate with the new headend.</p> <p>Replace fire alarm devices and improve communication with newer head-end is recommended.</p>	\$230,000		\$230,000	
E-9	GBS	Replace Fire Alarm Devices and Wiring	Academic Areas	<p>The current system is a mix of old and new fire alarm devices. The old devices are zoned and the new are addressable - all need to be upgraded to the newer addressable devices.</p> <p>Upgrade all fire alarm devices from zoned to addressable is recommended.</p>	\$420,000		\$420,000	
E-10	GBS	Replace Fire Alarm Devices and Wiring	Gym, FH, Old Pool	<p>The current system is a mix of old and new fire alarm devices. The old devices are zoned and the new are addressable - all need to be upgraded to the newer addressable devices.</p> <p>Upgrade all fire alarm devices from zoned to addressable is recommended.</p>	\$170,000		\$170,000	
E-12	GBN	Repair Intercom System	Throughout School	<p>There are certain components of the intercom system providing faults and overall communication and connection issues. Cost is to repair certain components and replace head-end unit and clock system.</p> <p>Replace head-end unit and repair various components of intercom system is recommended.</p> <p>Replace clock system with wireless clocks.</p>	\$125,000			\$125,000

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
E-14	GBN	Replace Fire Alarm Devices and Wiring	Throughout School	Fire alarm initiating devices are reaching the end of their useful life. Cost is to replace all heat and smoke detectors with new. Replace fire alarm initiating devices recommended.	\$50,000	\$50,000		
E-17	GBS	Rebuild Electrical Distribution System	Mechanical Equipment Room	Existing electrical distribution equipment is older and exceeds the six switch rule. This project will rebuild the distribution equipment and include main circuit breaker. Rebuild the electrical distribution system and include a new main circuit breaker is recommended.	\$60,000		\$60,000	
E-19	GBS	New Main Circuit Breaker	Main Electrical Service	Electrical service has a Pringle main bolted pressure switch. These switches have a known failure to re-close after fault or manual opening. Replace bolted pressure switch with new 100% rated main circuit. Replace bolted pressure switch with new 100% rated main circuit is recommended.	\$50,000		\$50,000	
E-10	GBN	New Main Circuit Breaker	Main Electrical Service	Electrical service has a Boltswitch main bolted pressure switch. These switches have a known failure to re-close after fault or manual opening. Replace bolted pressure switch with new 100% rated main circuit. Replace bolted pressure switch with new 100% rated main circuit is recommended.	\$50,000	\$50,000		
E-13	GBN	Rebuild Interior of Electrical Service	Main Electrical Service	Electrical service is original service in facility dating to 1953. Due to significant work occurring at GBN summer of 2017 and summer school occurring at GBN summer of 2018, this project will occur summer of 2019. Replace all interior components of the original building electrical service (circuit breakers, fuses) is recommended.	\$70,000			\$70,000
					\$1,525,000	\$240,000	\$1,090,000	\$195,000
Mechanical								
M-1	GBS	Hot Water Expansion Tanks & Temperature Control Valve Replacement	Mechanical Room	In 2008, the 3 main hot water boilers for the overall heating system, were replaced with 10 modular boilers. The expansion tank system was not upgraded to best support the new modular boiler system. It is not supporting the system properly which results in leaks throughout the building. This cost will replace the expansion tank system. As a result of the expansion tank not working properly, the temperature control valves have higher stress and are now approaching the end of their useful life and need to be replaced. Replace expansion tank and control valves is recommended.	\$265,000		\$265,000	

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
M-1	GBN	Replace window unit ventilators	Various	<p>There are approximately 20 classrooms and the Spartan conference room served by unit ventilators that are over 20 years old. The units have original controls and are subject to failure. In addition it is difficult to maintain the proper temperature control and there are noise concerns in the classrooms with these units.</p> <p>Replace unit ventilators in the academic wing with an AHU and in the arts area with new, vertical unit ventilators.</p>	\$690,000	\$690,000		
M-1	OC	Replace hot water boilers	Boiler Room	<p>The existing gas fired hot water boilers are over 40 years old and showing signs of deterioration. Loss of the boilers would result in loss of heat to the entire building.</p> <p>Replace modular gas fired hot water boilers with new modular boilers is recommended.</p>	\$190,000	\$190,000		
M-4	GBS	Add exhaust system	Orchestra Pit	<p>Due to the potential for dampness in the orchestra pit an exhaust system is recommended.</p> <p>Purchase of an exhaust system is recommended.</p>	\$7,500		\$7,500	
M-9	GBS	Replace Dampers	Main Gym	<p>Snow and rain are infiltrating through the barometric relief dampers above the main gym floor. Games have had to be cancelled due to this issue. This project should be tied in with the replacement of the new gym floor.</p> <p>Replacement of barometric relief dampers is recommended.</p>	\$128,000	\$128,000		
M-11	GBS	Add exhaust system	Home Economics	<p>There is currently not an exhaust system in the home economics room. This was sited during an ROE inspection. This cost adds the exhaust.</p> <p>Purchase of an exhaust system is recommended.</p>	\$20,000		\$20,000	
M-14	GBS	Add exhaust grill to tie into existing exhaust system	Auditorium	<p>There is a sump pump for the sanitary line in a closet in the basement of the auditorium. This fills with sewer gas, the exhaust would relieve the smell which infiltrates into the auditorium. This project will add an exhaust grill to tie into the existing exhaust system.</p> <p>Purchase of an exhaust grill to be tied into the existing exhaust system is recommended.</p>	\$15,000		\$15,000	
M-20	GBS	Replace/Retrofit Pool Dehumidification System	Natatorium	<p>The current Innovent system which provides the dehumidification and temperature control in the natatorium is 8 years old and is not working properly and the refrigerant compressors have failed numerous times resulting in a significant repair cost.</p> <p>Repair and recommissioning of dehumidification system is recommended.</p>	\$145,000		\$145,000	

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
M-2	GBN	Replace/Retrofit Pool Dehumidification System	Natatorium	<p>The current Dectronics system which provides the dehumidification and temperature control in the natatorium is at the end of its useful life.</p> <p>Replacement of dehumidification system is recommended.</p>	\$760,000		\$760,000	
M-3	GBN	Replace Air Handling System	Auxiliary Gyms	<p>The auxiliary gyms are served by original air handling units that are over 40 years old and have the original controls. Failure would result in a loss of heating and ventilation.</p> <p>Replacement of mechanical system is recommended.</p>	\$480,000	\$480,000		
M-5	GBN	Replace Air Handling System	CPA	<p>The CPA is served by original air handling units that are over 40 years old and have the original controls. Failure would result in a loss of heating and ventilation.</p> <p>Replacement of mechanical system is recommended.</p>	\$370,000	\$370,000		
M-6	GBN	Replace Air Handling System	Scene Shop	<p>The scene shop is served by an original air handling unit that is over 40 years old and has the original controls. Failure would result in a loss of heating and ventilation.</p> <p>Replacement of mechanical system is recommended.</p>	\$150,000	\$150,000		
M-7	GBS	Replace Chiller Drive	Chiller Room	<p>The drive on the main chiller plant is non operational which does not give efficient temperature control. This project replaces the drive.</p> <p>A chiller drive replacement is recommended.</p>	\$200,000		\$200,000	
M-8	GBS	Replace Air Handler	Math Wing	<p>The air handler is undersized, especially during the cooling season and the system has a difficult time satisfying demand. The air handler is over 25 years old and the cooling coil on this air handler has been compromised. Two major coil repairs have taken place which drastically decreased capacity.</p> <p>Replacement of mechanical system is recommended.</p>	\$120,000		\$120,000	
M-16	GBS	Replace Rooftop Exhaust Fans	Fieldhouse	<p>The existing rooftop exhaust fans are failing. The fans are required to maintain the proper static pressure in the fieldhouse along with the ventilation supply fans.</p> <p>Replacement of exhaust fans is recommended.</p>	\$67,500		\$67,500	
M-21	GBN	Replace Valve	Mechanical Tunnels	<p>The existing pressure and temperature relief valve on the heat exchanger is showing signs of age and needs to be replaced.</p> <p>Valve replacement is recommended.</p>	\$20,000	\$20,000		
Total					\$3,628,000	\$2,028,000	\$1,600,000	\$0

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LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
Fire Protection								
FP1	GBS	Sprinkler Head Replacement	Various Areas	There are several areas where the sprinkler is corroded and needs to be replaced and/or additional sprinkler heads need to be added. Replace and/or add sprinkler heads is recommended.	\$15,000	\$15,000		
FP1	GBN	Sprinkler Head Replacement	Various Areas	There are several areas where the sprinkler is corroded and needs to be replaced and/or additional sprinkler heads need to be added. Replace and/or add sprinkler heads is recommended.	\$17,000	\$17,000		
					\$32,000	\$32,000	\$0	\$0
Plumbing								
P-7	GBS	Modify Hot Water Return	Home Economics	The domestic hot water line is not providing hot water into the home economics classrooms, which is needed for cleaning and sanitizing cooking equipment and hand washing. Modification of hot water return system and add booster heat is recommended.	\$24,000		\$24,000	
P-3	GBS	Replace Old Piping	East Pool Filter Room	Piping is rusting due to corrosive environment from chlorine. Replace rusted piping is recommended.	\$13,500	\$13,500		
P-4	GBN	Replace Filtration System	Natatorium	The old pool filtration system is over 40 years old and in poor condition due to corrosion and age. Replacement of pool filtration system and surge tank is recommended.	\$210,000		\$210,000	
P-4	GBS	Replace Filtration System	Natatorium	The old pool filtration system is over 40 years old and in poor condition due to corrosion and age. Replacement of pool filtration system and surge tank is recommended.	\$210,000		\$210,000	
					\$457,500	\$13,500	\$444,000	\$0
Subtotal for All Project Areas					\$12,568,000	\$5,518,000	\$6,455,000	\$595,000
2% Design Contingency					\$251,360	\$110,360	\$129,100	\$11,900
Subtotal for Bidding					\$12,819,360	\$5,628,360	\$6,584,100	\$606,900
Fees/Construction Contingency					\$2,180,832	\$954,614	\$1,122,715	\$102,935
Grand Total					\$15,000,192	\$6,582,974	\$7,706,815	\$709,835