

To: Dr. Mike Riggle

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

Date: October 24, 2016

Re: Recommended Capital Projects Summer 2017

Recommendation

It is recommended that the Board of Education authorize ARCON to design bid specifications for capital projects to be completed the summer of 2017. ARCON's fee to create the bid specifications is 7.5% of the total project cost and is estimated to be \$438,675.

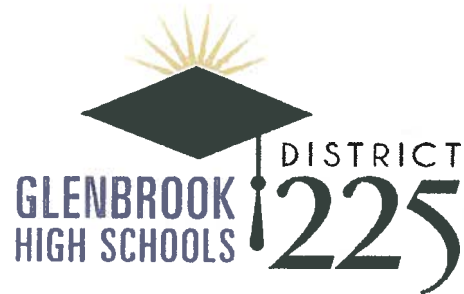
Background

Each fall the Facilities Committee meets to review potential capital projects that have been proposed by members of the school and district leadership teams. These projects have included enrollment-driven projects to modernize or renovate learning spaces, scheduled repairs/upgrades of facilities, and projects identified as part of an approved life safety amendment. With the recent debt issue to support life safety projects, we have developed a three-year plan to address all of the identified projects which includes a large amount of work to be performed at Glenbrook North during the summer of 2017. The facilities committee met twice this fall to review the list of potential capital projects for the summer of 2017 (see summary presented below, and detailed overview of projects attached).

At this time we are requesting that the Board of Education authorize ARCON to design bid specifications for the identified projects. These specifications will be used to solicit bids from interested vendors that will be subsequently reviewed by the Facilities Committee. A final recommendation will then be presented to the Board of Education for approval in March 2017. Once bids are approved the actual cost and a 2% construction contingency will be placed in the FY 17/18 budget.

Funding Source	Project Description	Estimate
Life Safety Bonds	Life Safety Projects as Identified in Life Safety Amendment	\$5,373,000
Operating Funds (FY18)	Paving and Concrete	\$111,000
Operating Funds (FY18)	GBN Classroom Reconfiguration	\$365,000
	Subtotal	\$5,849,000
	Architectural Fee (7.5%)	\$438,675
	Construction Management Fee (7.5%) + OOP*	\$459,554
	Bidding/Market Contingency (2%)	\$116,980
	Construction Contingency (2%)	\$116,980
	Total w/ Fees & contingencies	\$6,981,189

* OOP - Out of Pocket Expenses: safety inspections, dumpsters, porta-potties, site drawings



Recommended Capital Projects

Summer of 2017 - FY2018 budget

Business Office Leadership Team

R.J. Gravel, Ed.D., Assistant Superintendent for Business Services/CSBO

Kim Ptak, Ed.D, Director of Operations/CSBO

Vicki Tarver, M.S.Ed., Director of Business Services/CSBO

Building Level Leadership Team

Kris Frandson, Associate Principal for Administrative Services / GBN

Gary Freund, Associate Principal for Administrative Services / GBS

Dan Whisler, Plant Operator / GBN

Chet Bachula, Plant Operator / GBS

Professional Consultants

Rick Cozzi, ARCON & ASSOC.

Erin Miller, ARCON & ASSOC.

Jeff Zurlinden, Nicholas & Assoc.

Paul Connors, AMSCO Engineering

Dale Johnson, AMSCO Engineering

Table of Contents

Recommended Projects Funded Through Life Safety Bonds

- A. Roofing
- B. Architectural
- C. Electrical
- D. Mechanical
- E. Fire Protection
- F. Plumbing

Recommended Projects Funded Through FY2018 Operating Funds

- A. Paving and Concrete
 - B. GBN Classroom Reconfiguration
-

Attachments - Supporting Documents

- A. \$15M Life Safety (LS) List - original list and estimates
- B. GBN Classroom Reconfiguration

Recommended Projects Funded Through Life Safety Bonds

At the June 25, 2016 board meeting, the Board approved submitting a \$15M life safety amendment to the State of Illinois. The amendment was filed in response to the District's 10-year life safety survey. The amendment identifies building infrastructure needs and safety concerns.

It is recommended that the following projects be completed the summer of 2017 at an estimated cost of \$5,373,000, or \$6,409,989 with fees and contingencies. These projects represent 43% of projects submitted to the State of Illinois. The remaining projects will be completed the summers of 2018 and 2019. Upon deeper review of each project recommended for the summer of 2017 and the specific solution, the cost estimate is \$172,985 less than what was originally submitted to the State. If actual bid results are favorable, a life safety addendum can be filed to address additional life safety projects.

Project Category	Org. Estimate	Rev. Estimate	Difference	N
A. Roofing	\$1,386,000	\$1,296,000	(\$90,000)	A
B. Architectural	\$1,818,500	\$1,818,500	\$0	
C. Electrical	\$240,000	\$200,000	(\$40,000)	B
D. Mechanical	\$2,028,000	\$2,013,000	(\$15,000)	C
E. Fire Protection	\$32,000	\$32,000	\$0	
F. Plumbing	\$13,500	\$13,500	\$0	
Subtotal	\$5,518,000	\$5,373,000	(\$145,000)	
Architectural Fee (7.5%)	\$413,850	\$402,975	(\$10,875)	
Const. Mgmt. Fee (7.5%) + OOP*	\$430,404	\$419,094	(\$11,310)	
Bidding/Market Contingency (2%)	\$110,360	\$107,460	(\$2,900)	
Construction Contingency (2%)	\$110,360	\$107,460	(\$2,900)	
Total w/ Fees & Contingencies	\$6,582,974	\$6,409,989	(\$172,985)	

* OOP - Out of Pocket Expenses: safety inspections, dumpsters, porta-potties, site drawings

A - The five roof areas slated for the summer of 2017 have a built-up roof system with multiple layers of waterproofing and protection. Of these areas, three have a base layer of insulation that appears to be dry and in good condition. It is recommended that the insulation be reused which is consistent with past practice and expected to result in a savings of \$90,000.

B - Quotes have been received for the arc flash study which is a review and analysis of all electrical systems to identify and document the level of hazards and risks. Quotes are \$40,000 under the original estimate.

C - The following four mechanical projects are resulting in an overall decreased estimate for mechanical work of \$15,000.

Location	Project	Original	Revised	Difference	Reason
GBN	Replace 23 Unit Ventilators	\$690,000	\$715,000	\$25,000	Original estimate included replacing window unit ventilators with a rooftop unit in the academic wing and vertical unit vents in the arts area. The revised scope substitutes the rooftop unit with an interior air handling unit (AHU) which will be housed in a new mechanical room on the 2nd floor of the "A" building. The AHU offers better space control, is more energy efficient and has twice the life expectancy of a roof top unit.
GBS	Replace Dampers in Main Gym	\$128,000	\$98,000	(\$30,000)	The current relieve dampers are in the cupola above the gym floor. A better solution is to fill the cupola with windows and put the dampers on the exterior wall with the ribbon of windows.
GBN	Replace Back Gym AHUs	\$480,000	\$610,000	\$130,000	The original scope is to replace the two AHUs supporting the four back gyms. It is recommended that the scope be increased to provide rooftop exhaust fans in the ceiling of all four gyms (similar to what is in the main gym at GBN). Since the gyms are not cooled this would provide air flow through the spaces to improve comfort.
GBN	CPA AHU	\$370,000	\$230,000	(\$140,000)	Rather than buying a new AHU, it is recommended that the current unit be refurbished. The current unit's casing is in good condition and shows no signs of deterioration. The casing will remain and all interior moving parts will be replaced.
				(\$15,000)	

Recommended Projects Funded through FY2018 Operating Funds

A. Paving and Concrete Projects

Based on a detailed review of all parking lot areas and concrete paths as well as input from our architect, paving contractors and building personnel, a 10 year master plan has been created. The cycle for parking lot replacement work is 15 years and crack-fill/sealing coating is three years. In general concrete paths are in good condition and are reviewed annually for any repair/replacement. Recommended work for the summer of 2017 includes crack filling and sealcoating parking lots in accordance with the 3-year cycle.

B. GBN Classroom Reconfiguration Project

There is a section of eight original classrooms on the second floor of the GBN "A" building that are only 575 square feet and are significantly below the average classroom size throughout the district of 675 and the standard for new classrooms of 850 square feet. The eight rooms are all slated for new mechanical systems as part of the life safety work. As such, one of the rooms is being converted into a mechanical room and duct work will be run from the new mechanical room into the remaining seven classrooms. This presents an opportune time to reconfigure the classrooms and convert six of the 575 square feet classrooms into 4 rooms that are 870 square feet. A floor plan is attached.

Project Category	GBN	GBS	GBO	Total
Paving & Tennis Court Repair/Resurface	\$33,000	\$35,000	\$20,000	\$88,000
Concrete Paths	\$23,000	\$0	\$0	\$23,000
GBN Classroom Reconfiguration	\$365,000	\$0	\$0	\$365,000
Subtotal	\$421,000	\$35,000	\$20,000	\$476,000
			Architectural Fee (7.5%)	\$35,700
			Const. Mgmt. Fee (7.5%) + OOP	\$40,460
			Bidding/Market Contingency (2%)	\$9,520
			Construction Contingency (2%)	\$9,520
			Total w/ Fees & Contingencies	\$571,200

Attachments - Supporting Documents

- A. \$15M Life Safety (LS) List - original list and estimates
- B. GBN Classroom Reconfiguration

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

\$15M LS LIST

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	Roof replacement recommended. 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	Roof replacement recommended. 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	Roof replacement recommended. 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	

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
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 file replacement recommended.	\$110,000	\$110,000		

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
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	
Electrical					\$2,593,500	\$1,818,500	\$375,000	\$400,000
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		

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
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		
E-4	GBS	Replace transformers	Various Areas	Arc flash study, analysis, labeling and report recommended. Transformers located throughout the building's academic wing are original to the building, in a poor location (janitor's closet with water, etc.) Transformer replacement and relocation recommended.	\$160,000		\$160,000	
E-08	GBN	Add carbon monoxide detectors	Various Areas	Furnish carbon monoxide detectors within 20 feet of any carbon monoxide emitting device. Connect to fire alarm system. This is a new state standard.	\$10,000	\$10,000		
E-12	GBS	Add carbon monoxide detectors	Various Areas	Installation of carbon monoxide detectors tied into fire alarm system is recommended. Furnish carbon monoxide detectors within 20 feet of any carbon monoxide emitting device. Connect to fire alarm system. This is a new state standard.	\$10,000	\$10,000		
E-8	GBS	Upgrade Fire Alarm System	Auditorium Basement Fire Alarm	Installation of carbon monoxide detectors tied into fire alarm system is recommended. 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. Replace fire alarm devices and improve communication with newer head-end is recommended.	\$230,000		\$230,000	
E-9	GBS	Replace Fire Alarm Devices and Wiring	Academic Areas	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. Upgrade all fire alarm devices from zoned to addressable is recommended.	\$420,000		\$420,000	
E-10	GBS	Replace Fire Alarm Devices and Wiring	Gym, FH, Old Pool	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.	\$170,000		\$170,000	

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
E-12	GBN	Repair Intercom System	Throughout School	<p>Upgrade all fire alarm devices from zoned to addressable is recommended.</p> <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. Replace clock system with wireless clocks.</p>	\$125,000			\$125,000
E-14	GBN	Replace Fire Alarm Devices and Wiring	Throughout School	<p>Fire alarm initiating devices are reaching the end of their useful life. Cost is to replace all heat and smoke detectors with new.</p> <p>Replace fire alarm initiating devices recommended.</p>	\$50,000	\$50,000		
E-17	GBS	Rebuild Electrical Distribution System	Mechanical Equipment Room	<p>Existing electrical distribution equipment is older and exceeds the six switch rule. This project will rebuild the distribution equipment and include main circuit breaker.</p> <p>Rebuild the electrical distribution system and include a new main circuit breaker is recommended.</p>	\$60,000		\$60,000	
E-19	GBS	New Main Electrical Circuit Breaker	Main Electrical Service	<p>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.</p> <p>Replace bolted pressure switch with new 100% rated main circuit is recommended.</p>	\$50,000		\$50,000	
E-10	GBN	New Main Electrical Circuit Breaker	Main Electrical Service	<p>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.</p> <p>Replace bolted pressure switch with new 100% rated main circuit is recommended.</p>	\$50,000	\$50,000		
E-13	GBN	Rebuild Interior of Electrical Service	Main Electrical Service	<p>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.</p> <p>Replace all interior components of the original building electrical service (circuit breakers, fuses) is recommended.</p>	\$70,000			\$70,000
Mechanical					\$1,525,000	\$240,000	\$1,090,000	\$195,000

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
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.	\$265,000		\$265,000	
M-1	GBN	Replace window unit ventilators	Various	Replace expansion tank and control valves is recommended. 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. Replace unit ventilators in the academic wing with an AHU and in the arts area with new, vertical unit ventilators.	\$690,000	\$690,000		
M-1	OC	Replace hot water boilers	Boiler Room	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. Replace modular gas fired hot water boilers with new modular boilers is recommended.	\$190,000	\$190,000		
M-4	GBS	Add exhaust system	Orchestra Pit	Due to the potential for dampness in the orchestra pit an exhaust system is recommended. Purchase of an exhaust system is recommended.	\$7,500		\$7,500	
M-9	GBS	Replace Dampers	Main Gym	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. Replacement of barometric relief dampers is recommended.	\$128,000		\$128,000	
M-11	GBS	Add exhaust system	Home Economics	There is currently not an exhaust system in the home economics room. This was sited during an ROE inspection. This cost adds the exhaust.	\$20,000		\$20,000	

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
M-14	GBS	Add exhaust grill to tie into existing exhaust system	Auditorium	<p>Purchase of an exhaust system is recommended.</p> <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>	\$15,000		\$15,000	
M-20	GBS	Replace/Retrofit Pool Dehumidification System	Natatorium	<p>Purchase of an exhaust grill to be tied into the existing exhaust system is recommended.</p> <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>	\$145,000		\$145,000	
M-2	GBN	Replace/Retrofit Pool Dehumidification System	Natatorium	<p>Repair and recommissioning of dehumidification system is recommended.</p> <p>The current Dectronics system which provides the dehumidification and temperature control in the natatorium is at the end of its useful life.</p>	\$760,000		\$760,000	
M-3	GBN	Replace Air Handling System	Auxiliary Gyms	<p>Replacement of dehumidification system is recommended.</p> <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>	\$480,000	\$480,000		
M-5	GBN	Replace Air Handling System	CPA	<p>Replacement of mechanical system is recommended.</p> <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>	\$370,000	\$370,000		
M-6	GBN	Replace Air Handling System	Scene Shop	<p>Replacement of mechanical system is recommended.</p> <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>	\$150,000	\$150,000		
M-7	GBS	Replace Chiller Drive	Chiller Room	<p>Replacement of mechanical system is recommended.</p> <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	

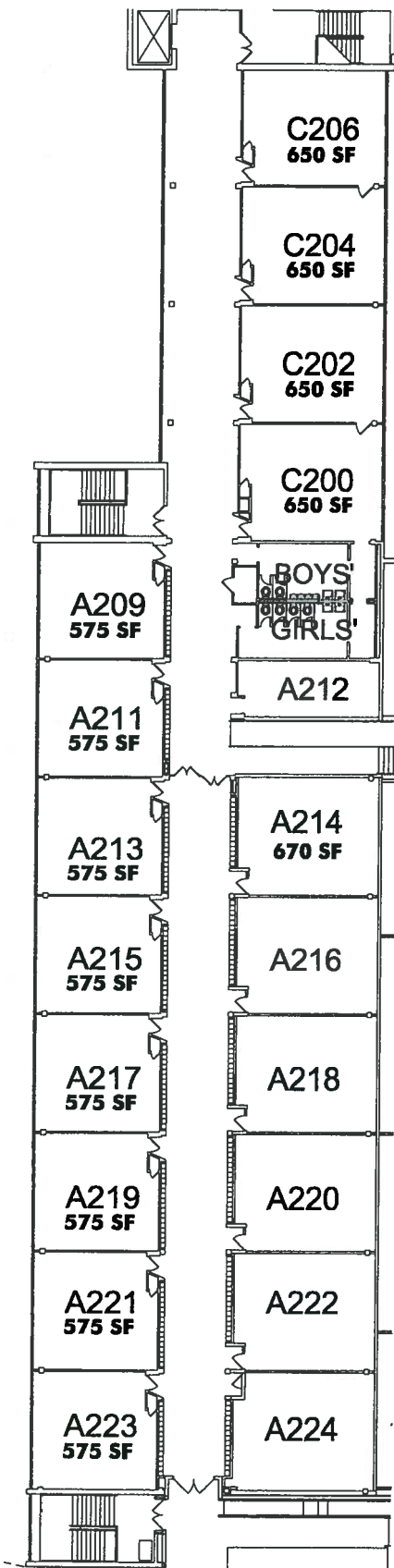
Glenbrook High School District 225 - Life Safety Amendment - \$15M

LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
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		
Fire Protection					\$3,628,000	\$2,028,000	\$1,600,000	\$0
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		
Plumbing					\$32,000	\$32,000	\$0	\$0
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.	\$210,000		\$210,000	

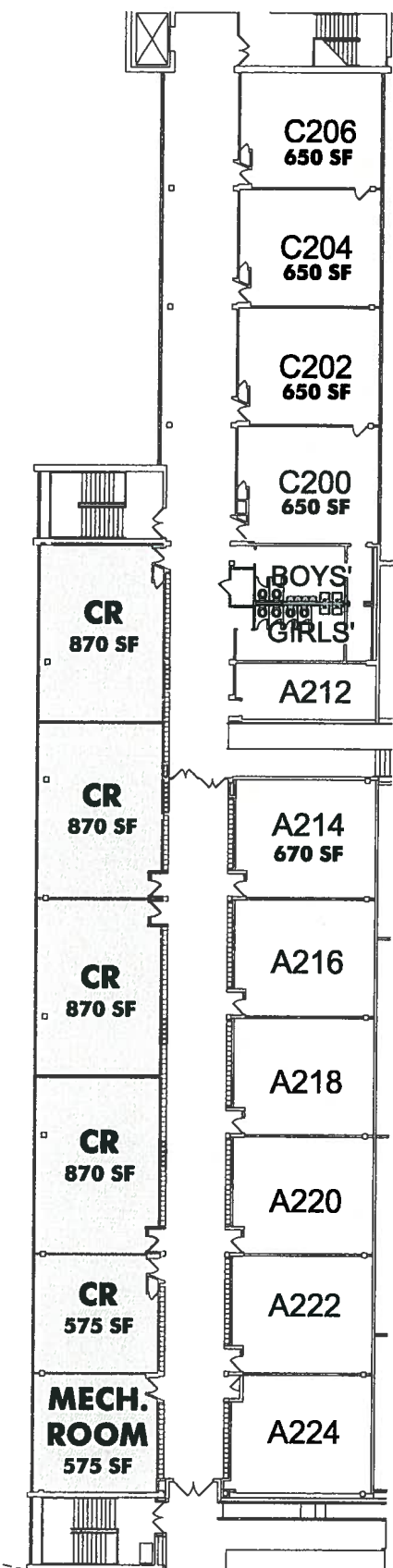
Glenbrook High School District 225 - Life Safety Amendment - \$15M

LS Code	School	Project	Location(s)	Description of the violation and recommended action	Cost Est. Total	Summer 2017	Summer 2018	Summer 2019
P-4	GBS	Replace Filtration System	Natatorium	<p>Replacement of pool filtration system and surge tank is recommended.</p> <p>The old pool filtration system is over 40 years old and in poor condition due to corrosion and age.</p> <p>Replacement of pool filtration system and surge tank is recommended.</p>	\$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
Fees / Contingencies					\$2,432,192	\$1,064,974	\$1,251,815	\$114,835
Grand Total					\$15,000,192	\$6,582,974	\$7,706,815	\$709,835

GBN Classroom Reconfig.




CURRENT LAYOUT

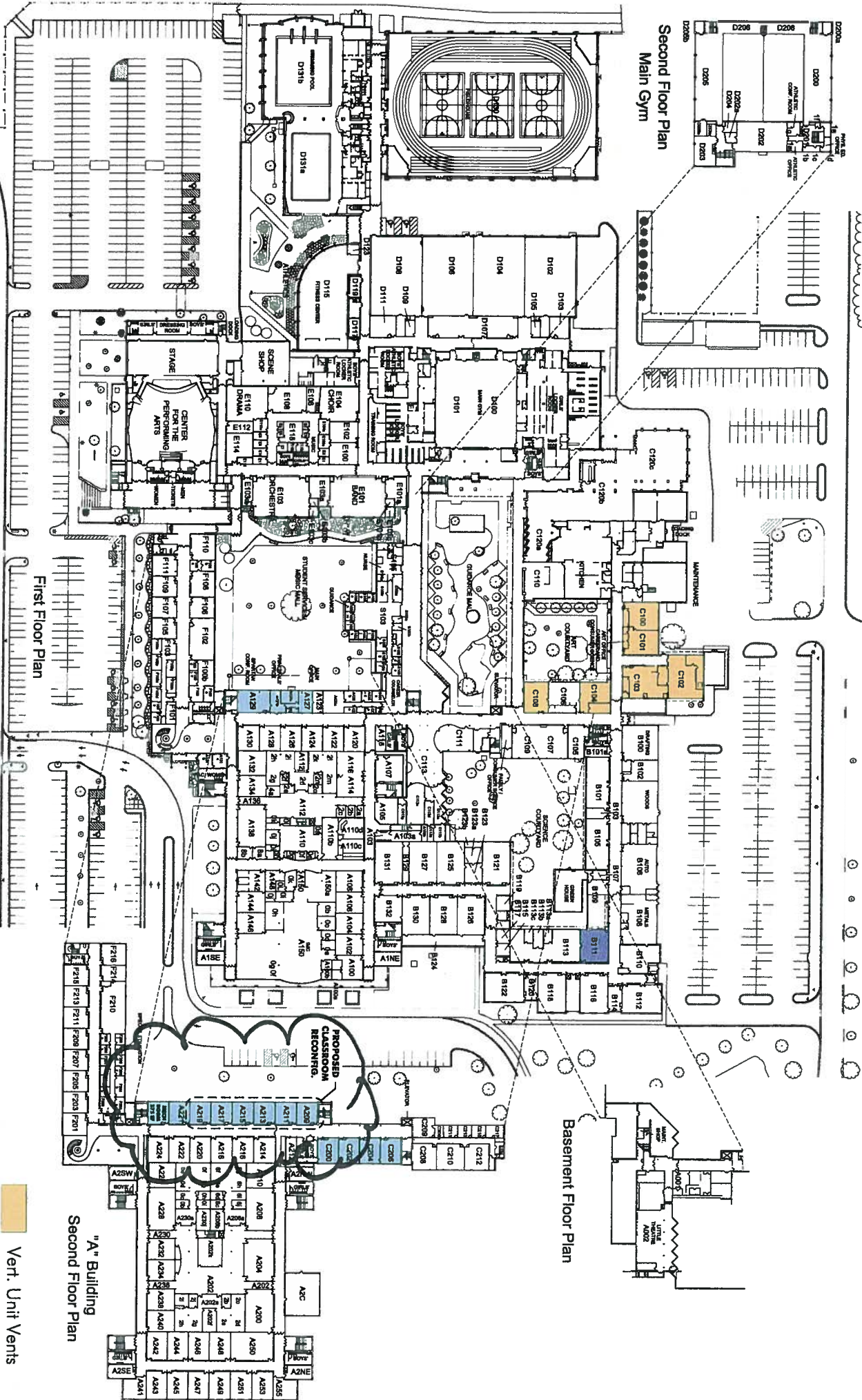



PROPOSED RECONFIGURATION



FLOOR PLANS - 2017 SCOPE OF WORK - AIR HANDLING UNIT

- Vert. Unit Vents
- Tie-in to Exist. AHU
- Air Handling Unit (Ductwork)



Second Floor Plan
Main Gym

First Floor Plan

Basement Floor Plan

"A" Building
Second Floor Plan