

Project Summary:

# New Hope-Solebury School District High School Modernization Study

21 April, 2014

***Update 13 June 2014***

***Update 22 August 2014***

High School Facilities Assessment				
Part 1 - General Information				
Material / System		Condition / Age/Recommendation	Cost	
			Not Included	Included
1.1	<b>Age of Building and Additions</b>	1938/50/58/67/97		N/A
1.2	<b>Era of last Significant Renovat</b>	1997 and 2007		N/A
1.3	<b>Overall Building Condition</b>	Good		N/A
1.4	Weather Protection	Leaks reported at both the Middle School and High School Gyms in the Upper wall. It appears water is getting into the top of the wall. The roofing to wall connection should be investigated and repaired.		\$15,000
1.5		Leaks were observed around the garden courtyard. Recommend providing storm drain and water proofing on walls below grade.		\$30,000
1.6	Conditioning			N/A
1.7	<b>Building Use</b>	High School / District Administration		N/A
1.8	<b>Construction Type</b>	'38 Masonry Bearing w/ wood floor & Roof		N/A
1.9		50/58/67 Masonry Bearing with Steel Floor/ Roof framng		
1.10		'98 Masonry Bearing with Steel Floor & Roof Framing		
1.1	<b>Sprinklers</b>	Wet-type sprinkler protection in areas new to 1998 construction. Good Condition.		N/A
Part 2 - Site Conditions				
2.1	<b>Asphalt Paving</b>	The majority of the paving is 15 years old. Some Minor Cracking / previous crack repair is evident/ Recommend overall sealant to prevent deterioration. 212,200 sf X \$0.40	\$84,880 Maintenance Budget	
2.2	<b>Concrete Paving</b>	Some areas of spalling/joint sealant is failing / Recommend replacing spalled concrete and replacing failed joint sealant.	\$50,000 Maintenance Budget	
2.3	<b>Storm Water Management</b>			N/A
2.4	<b>Site Utilities</b>			
2.5	Water service	City water connection 5 years old shared with MS - Good Condition		N/A
2.6	Fire water service	City water connection 5 years old shared with MS - Good Condition		N/A
2.7	Electric service	480V service fed from PECO transformer during 1998 construction - Good Condition		N/A
2.8	Gas service	Gas Service from PECO - serves the Kitchen, science classrms and Boilers.		
2.9	Sanitary lateral	City sanitary connection shared with MS - Good Condition		N/A

High School Facilities Assessment				
Part 1 - General Information				
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2.10	Phone / cable	Phone, cable, etc. fed from applicable utilities during 1998 construction. Fiber service is thru an agreement with the BCIU - All services are in Good Condition		N/A
<b>Other</b>				
Part 3 - Building Exterior Shell				
3.1	<b>Exterior Walls</b>	Brick and painted masonry/ Brick and mortar are in good shape / Painted Block is failing particularly on upper gym walls / Recommend removing loose paint and repainting all masonry. Some minor repointing should be done on the '38 Building.	\$24,750 Maintenance Budget	
3.2		There is a Structural Crack in the North West Corner of the Cafeteria. This should be investigated and repaired.	\$10,000 Maintenance Budget	
3.3	<b>Exterior Doors</b>	Aluminum doors in Alum. Frames from the '98 building add/reno. - No issues.		N/A
3.4		Painted Hollow metal Doors and frames - in need of paint	\$15,000 Maintenance	
3.5	<b>Windows</b>	'98 building has alum. Frames with insulated glass, operables are casement type / Good Condition.		N/A
3.6		'50 building has alum. double hung units installed in the mid 80s which are difficult to operate / <u>Parts are hard to get.</u> Recommend replacing. <u>Replacement will increase energy efficiency.</u>		\$72,000
3.7		'38 building has alum. double hung units installed in the mid 80s which are difficult to operate / Recommend replacing.		\$418,500
3.8	<b>Roofing Systems</b>	'98 building has Asphalt shingles - No problems reported. Other Building had their roofs replaced between 2002 and 2005 / Minor drainage and flashing issues were observed these should be corrected before they develop into a problem.	\$15,000 Maintenance Budget	
3.9		'38 Building roof is showing some alligatoring.		
3.10	<b>Roof and Floor Framing</b>	'38 building wood frame - No issues		N/A
3.11		All other building Steel frame in good		N/A

High School Facilities Assessment			
Part 1 - General Information			
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3.12 <b>Basement Water Manag.</b>	'38 building - minor water infiltration in the 2 lower level classrooms /this is currently handled by sump pump. Recommend moving teaching spaces off lower level. Improve on water proofing and drainage condition.	\$5,000	Maintance Budget

**Other**

Part 4 - Building Interior			
4.1 <b>Casework and cabinets</b>	Much of the Case work is from '98 renovation and is in good condition with the following exceptions.		N/A
4.2	'38 building has 4 classrooms with original case work.		\$40,000
4.3	Science Work rooms have original case work which is showing deterioration. Replace.		\$72,000
4.4	Counter top in the Computer Lab in the '50's building laminate is coming off. Replace the Computer top with computer furniture.		\$8,000
4.5	Lockers and Casework in the existing Gyms, music and Art rooms are damaged and should be replaced.		\$179,600
4.6	Lockers in existing HS Building are serviceable, they have been repainted and repaired many times over the years. In a significant renovation they should be replaced.		\$80,000
4.7	Cafeteria, the District would like to replace the tables and loose chairs in the cafeteria with tables that have fixed chairs attached to them.		\$127,000
4.8 <b>Interior doors and frames</b>	Doors in general are in good condition. The gyms, music and art rooms doors are worn and in need of replacement.		\$134,700
<b>Finishes</b>			
4.9 Walls	Painted Masonry in Good Condition; Should be repainted in major renovation.		\$153,800
4.10 Ceilings	Replaced in '98 through out / Classrooms are in good condition/ Public areas are damaged very dirty - Replace classrooms on an as needed basis / Replace Ceiling in all Public areas.		\$230,700

**High School Facilities Assessment**

Part 1 - General Information			
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4.11	Floors	Flooring was replaced in '98 through out / VCT is showing wear / Carpet is worn with seams becoming loose. VCT expected to last 15-20 years. Recommend replacing flooring through out the building. Carpet was used in the '38 building as a sound buffer on the wood flooring.  HS Only.		
	Rooms		\$470,000	
	Corridors			\$130,000
4.12	Toilet rooms	The public Rest Rooms are showing age. The P.Lam partitions are broken in many areas. Recommend up dating the partitions in all the public rest rooms. <u>Tile floors are in bad shape.</u>		\$150,000

**Other**

**Part 5 - Mechanical, Electrical and Plumbing Systems**

**Plumbing**

5.1	Domestic water piping	Good condition, mostly new to 1998 construction		
5.2	Domestic water heater	Domestic hot water storage tank heating by heating boilers shared with MS - Good		
5.3	Plumbing fixtures	Mostly Good condition, mostly new to 1998 construction. There are a few plumbing fixtures original to the building. Replace old fixtures only.		\$25,000
5.4	Flush Valves	All faucets and flush valves are manually operated. Add Automatic control valves.		\$275,000
5.5	Gas piping	Good condition, mostly new to 1998 construction		NA
5.6	Fire Protection System	Wet-type sprinkler protection in areas new to 1998 construction. Good condition.		NA
5.7	Water consumption	Good for 1998 vintage. No leaky fixtures noticed. Newer fixtures could decrease water consumption. These should be replaced as required by work to provide ADA compliant fixtures.		
5.8	Water Fountains	It has been reported that the Drinking Fountains are constantly maintained to keep them in service, however, they are in rough shape. These should be replaced through out. \$1200 per unit. <u>New Units must have Hydration station.</u>		\$8,400

Other

High School Facilities Assessment			
Part 1 - General Information			
Material / System	Condition / Age/Recommendation	Cost	
		Not Included	Included
<b>HVAC</b>			
5.9	Boiler	Three dual fuel cast iron boilers new to 1998 construction. Can last over 30 years with proper maintenance. Shared with MS. Good Condition. <u>Replace existing boilers with High Efficiency Boilers. The Boilers have been serviced a lot over the last few years.</u>	\$675,000
5.10	Chiller	Add a Central Chiller and distribution piping in lieu of Individual Roof top Chillers. This would replace item below. Would serve HS & MS.	\$2,183,500
5.11	Compressors & AHUs	Air Handling Units (AHU) are mostly new to 1998 construction. Fan and coils appear to be in good condition. Building has a large number of DX cooling units which include compressors, several of which have recently required replacement. Typical life expectancy is around 15-20 years. New refrigerant standards require replacement of interior units. It <u>may</u> be possible to retrofit interior units which could reduce cost by \$300-\$500,000.	\$1,153,500
5.12		Replace Unit Ventilator with Remote Condensing units. <u>Price is reduced due to new chiller.</u>	\$150,000
5.13		Replace all (9) self contained Unit ventilators. <u>Provide new Blower Coils. Price is reduced due to new chiller.</u>	\$185,000
5.14	Energy Recovery Systems	none	NA
5.15	Control System	Front End Software is new and has the capabilities the district would like to have. The district would like all system controls updated to tie into this program.	NA
5.16		1998 vintage digital controls. Antiquated system. Controller availability is limited and serviceability will become more difficult and more expensive in the future. These will be updated to tie into the controls program. If the system is replaced without the replacement of AHU noted above, total cost is \$731,150.	\$400,000

High School Facilities Assessment				
Part 1 - General Information				
Material / System		Condition / Age/Recommendation	Cost	
			Not Included	Included
5.17	Ventilation	Code compliant for 1998. Current code may require small increase. Equipment should be flexible enough to handle slight increase. Upgrade in the ventilation will be covered by the replacement of the HVAC units as listed above.		Covered in above Price
5.18	Energy Efficiency	Replace small domestic boiler with High Efficiency condensing boiler. Energy efficiency should offer 8-10 year payback in natural gas savings.		Covered in above Price
5.19	Other	Remove abandoned Water tank.	\$15,000 Maintenance	
<b>Electrical</b>				
5.20	Service	480V service fed from PECO transformer during 1998 construction - Good Condition		N/A
5.21	Size of service	3000A @ 480V 3 phase		N/A
5.22	Main panels	Good Condition / Constructed 1998 / parts readily available		N/A
5.23	Sub panels	Majority of panels in Good Condition / Constructed 1998 / parts readily available. There are a few panels from older renovations that are in Poor Condition and should be replaced.		\$75,000
5.24	Transformers	Majority of transformers in Good Condition (does not meet current energy codes) / Constructed 1998 / recommend replace to save energy and increase power factor for additional savings. There are a few transformers from older renovations that are in Poor Condition and should be replaced.		\$90,000
5.25	Emergency Generator	65kW, 480V generator manufactured by Generac / Natural Gas / Good Condition / Constructed 1991 /Currently Overloaded / Parts readily available. As emergency loads are added to generator (i.e. more data, mechanical, etc.) generator may need to be replaced with a larger unit. The size will need to be doubled to accommodate the additional load. The District would like this moved to the exterior. Replace with 150Kw Natural Gas Exterior Generator.		\$300,000

High School Facilities Assessment				
Part 1 - General Information				
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5.26	Fire alarm (manuf/expandable) MS + HS	Manufactured by Simplex / Good Condition / Fed from HS in 1998 / Life expectancy of 15-20 years. System is obsolete and future repairs will become more difficult and expensive / Should be replaced		\$365,575
5.27	Smoke detection	Smoke detection is code compliant and throughout building.		in price above
5.28	FA annunciation	visual devices throughout building, audible annunciation does not meet current audible codes in classrooms.		in price above
5.29	Phone	Analog Comdial system with digital admin phones / New in 2007 Good Condition / parts readily available / should be upgraded to provide additional functionality, or replaced with new system.	\$240,000	
5.30	Gym Sound System	HS and MS gym sound systems are marginally functional / some components are damaged by pervious use / Installed during 1998 renovations / 15-20 year life expectancy / Systems should be replaced and designed to better allow student use.		\$70,000
5.31	Aud. Sound System	Marginally functional / Installed during 1998 renovations / 15-20 year life expectancy / System should be replaced and designed to better allow student use. <u>Some existing components would be reused.</u>		\$50,000
5.32	Clock	Simplex system in satisfactory condition. The District would like this replaced.		\$125,000
5.33	Public address systems	Simplex system in satisfactory condition w/ no reported issues. Should be done if ceilings are replaced.		\$208,900
5.34	Data	Data infrastructure is CAT5 in satisfactory condition but the wire type will likely fail to support systems over the next few years / Installed during 1998 construction / System is at maximum capacity and should be replaced in near future		\$524,650
5.35	Door access control	System in satisfactory condition and exists at exterior doors / upgrade/replace as needed to provide additional functionality as required. HS & MS.		\$90,000
5.36	CCTV	Security Cameras should be added at the exterior and Interior.		\$208,000



High School Facilities Assessment				
Part 1 - General Information				
	Material / System	Condition / Age/Recommendation	Cost	
			Not Included	Included
5.37	Lighting	Satisfactory condition / Constructed 1998 / Ballasts are at end of life and will require replacement. Lighting can be upgraded as part of an overall project, or ballasts replaced on a maintenance cycle.	<u>Could be done in an ESCO.</u>	\$861,925
5.38	Lighting Controls	Only occupancy sensors in classrooms with no level control, and no automatic control in corridors or larger spaces (i.e. library, etc.) / Occupancy sensors are starting to fail / recommend replacing occupancy sensors, either holistically, or on a maintenance cycle. Provide new automatic control for corridors and larger spaces, as well as exterior lighting in central system.		
		Replace CR Occ Sensors		\$45,000
		Corridors & Large Spaces		\$25,000
		Exterior Lighting		
5.39	Auditorium Dimming	Functional / Installed during 1998 renovations / Spare parts are available. There is only incandescent lighting, if space is used as LGI, at a minimum, additional energy efficient, long life lighting should be added.		\$250,000
		Lowering Rigging for theatrical lighting.		\$30,000
5.40	Energy Efficiency	Replace transformers and occupancy sensors. Add central automatic lighting control for corridors, larger spaces and corridors. Add dimming in instructional areas for additional level controls.		Price covered in above
5.41		Add daylight harvesting if holistically replacing light fixtures and/or ballasts.	\$187,375	\$50,000
5.42	Lightning Protection	System in poor condition / Constructed 1998 / If system is required, it should be repaired and recertified.	Maintenance Budget	
	Other			
Part 6 - Code Implications / Accessibility				
6.1	ADA parking spaces	Parking spaces and access were addressed in a previous project. However additional spaces and curb cuts should be located at the Main entrance.		In Total Below
6.2	Direct accessible route to main entrance	Main Entrance access needs to be modified to comply, including slope of walkway, handrails, signage.		In Total Below

High School Facilities Assessment			
Part 1 - General Information			
Material / System	Condition / Age/Recommendation	Cost	
		Not Included	Included
6.3	<b>Interior Route; corridors, doors, ramps</b>	Numerous doors do not have the required clearance, bottom of vision lite in doors is too low, there are 8 doors with a threshold that is too high.	In Total Below
6.4		There is no access to the aux Gym. - educational programs should be removed from this area.	
6.5		There are numerous projections into the clear path of the corridor.	In Total Below
6.6	<b>Teaching Spaces</b>	There are sinks within the classrooms that are not accessible.	In Total Below
6.7		The instrumental music room has built in risers - the risers should be removed.	In Total Below
6.8	<b>Stairs</b>	Numerous stairs do not have the proper handrail extensions, or are missing the handrail or guards.	In Total Below
6.9		There is no contrasting detectable warnings on treads.	In Total Below
6.10			
6.11	<b>Toilet Rooms</b>	ADA Improvements have been made however, some issues still exist with clearance and height of fixtures.	
6.12	<b>Exits</b>		
6.13	<b>Assembly Spaces</b>	Cafeteria; should have a transaction counter mounted to the appropriate height.	
6.14		Auditorium; wheel chair seating needs to be designated, access to the stage should be provided.	In Total Below
6.15		Gymnasium; wheelchair seating should be designated, locker facilities should have appropriate clearances for benches and plumbing fixtures.	In Total Below
<b>Total</b>			\$400,000
6.16	<b>Automatic Door openers</b>	These are not required by the by codes. \$20,000 per unit x 8 Units.	\$160,000
<b>Part 7 - Hazardous Materials</b> - Architect is not qualified to evaluate this subject and is only reporting suspicions			
<b>Owner's complaint of mold or mildew</b>			
7.1	<b>Asbestos</b>	Has an Asbestos Report b€ Approx. 20 sf in High School Locker room	\$5,000
<b>Total Budgeted Cost</b>			<b>\$9,327,250</b>

**Notes:** 1 Improvements to systems noted above do not include any changes to the layout of rooms.

Middle School Facilities Assessment			
Part 1 - General Information			
Material / System	Condition / Age/Recommendation	Cost	
		Not included	Included
<b>Age of Building and Additions</b>	1997		N/A
<b>Era of last Significant Renovat</b>	None		N/A
<b>Overall Building Condition</b>	Good		N/A
Weather Protection	No Reported Water Leaks.		N/A
Conditioning			N/A
<b>Building Use</b>	Middle School		N/A
<b>Construction Type</b>			N/A
<b>Sprinklers</b>	Wet-type sprinkler protection throughout		N/A
Part 2 - Site Conditions			
<b>Asphalt Paving</b>			\$7,850
<b>Concrete Paving</b>	In good Condition		
<b>Storm Water Management</b>	No Issues.		
<b>Site Utilities</b>			
Water service	City water connection shared with HS - Good Condition		
Fire water service	City water connection shared with HS - Good Condition		
Electric service	Fed from HS during 1998 construction - Good Condition		
Gas service	limited natural gas		
Sanitary lateral	Public sanitary connection shared with HS - Good Condition		
Phone / cable	Phone, cable, etc. fed from HS during 1998 construction - Good Condition		
Underground oil tanks	none		
<b>Other</b>			
Part 3 - Building Exterior Shell			
<b>Exterior Walls</b>	Brick and Split face - Good, no work needed.		
<b>Exterior Doors</b>	Aluminum in Alum. Frame w insulated glass - Good		NA
<b>Windows</b>	Alum. Frame w/insulated glass - Good.		NA
<b>Roofing Systems</b>	Asphalt Shingles - Good, no work needed.		NA
<b>Roof and Floor Framing</b>	Steel Joist and Concrete Floor/ Steel truss Roof.		
<b>Water Management</b>			NA
Part 4 - Building Interior - 59,000 SF			
<b>Casework and cabinets</b>	Good Condition - No work needed.		NA
Toilet Partitions	Poor Condition.		\$8,000
<b>Interior doors and frames</b>	Wood doors in Hollow Metal Frames - Good Condition, no work needed.		NA
<b>Finishes</b>			

Middle School Facilities Assessment			
Part 1 - General Information			
Material / System	Condition / Age/Recommendation	Cost	
		Not included	Included
Walls	Painted CMU; Showing signs of age, in a major renovation Should be replaced.		\$118,000
Ceilings	Acoustical Tile; Showing signs of age, in a major renovation Should be replaced.		\$177,000
Floors	VCT with limited Ceramic and Terrazzo; the VCT is showing signs of age, in a major renovation VCT Should be replaced. <i>Replace Corridors Only.</i>		
Corridors			\$59,200
Rooms		\$176,800	
<b>Other</b>			
Part 5 - Mechanical, Electrical and Plumbing Systems			

**Plumbing**

Domestic water pipe	Good condition, new to 1998 construction
Domestic water heater	Domestic hot water storage tank heating by heating boilers shared with HS - Good Condition
Plumbing fixtures	Good condition, new to 1998 construction. All faucets and flush valves are manually operated.
Gas piping	Very little in building
Fire Protection System	Wet-type sprinkler protection throughout building. Good condition.
Water consumption	Good for 1998 vintage. No leaky fixtures noticed. Newer fixtures could decrease water consumption.

Other

**HVAC**

Boiler	See HS	HS
Chiller	1998 air cooled chiller.	
Interior units	Good condition. Hot water, chilled water modular air handling units. No work needed.	
Energy Recovery	none	
Control System	1998 vintage digital controls. Antiquated system. Controller availability is limited.	HS
Ventilation	Code compliant for 1998. Current code may require small increase. Equipment should be flexible enough to handle slight increase.	NA

Energy Efficiency

Middle School Facilities Assessment			
Part 1 - General Information			
Material / System	Condition / Age/Recommendation	Cost	
		Not included	Included
Other	<i>Provide additional piping to create a 4 pipe system. <u>If a 4 pipe is not selected for installation there are 45 valves that must be adjusted to change from heat to Cooling.</u></i>		\$325,000
<b>Electrical</b>			
Service	Fed from HS during 1998 construction - Good Condition		
Size of service	400A & 480V 3 phase		
Main panels	Good Condition / Constructed 1998 / parts readily available. No work needed.		NA
Sub panels	Good Condition / Constructed 1998 / parts readily available. No work needed.		NA
Transformers	Good Condition (does not meet current energy codes) / Constructed 1998 / recommend replace to save energy and increase power factor for additional savings		HS
Fire alarm	Manufactured by Simplex / Good Condition / Fed from HS in 1998 / System is obsolete / Should be replaced.		HS
Smoke detection	Smoke detection is code compliant and throughout building.		
FA annunciation	visual devices throughout building, audible annunciation does not meet current audible codes in classrooms.		HS
Phone	Analog Comdial system extended from HS / Good Condition / parts readily available / should be upgraded to provide additional functionality, or replaced with new system.		
Clock	Simplex system in satisfactory condition / Fed from HS in 1998.		NA
Public address systems	Simplex system in satisfactory condition / Fed from HS in 1998.		HS
Data	Data infrastructure is CAT5 in satisfactory condition / Fed from HS during 1998 construction / System is at maximum capacity and should be replaced in near future.		\$206,500
Door access control	System in satisfactory condition and exists at exterior doors / upgrade/replace as needed to provide functionality as required.		HS

Middle School Facilities Assessment			
Part 1 - General Information			
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		Not included	Included
Lighting	Satisfactory condition / Constructed 1998 / Ballasts are at end of life and will require replacement. Lighting can be upgraded as part of an overall project, or ballasts replaced on a maintenance cycle.		\$339,250
Lighting Controls	Only occupancy sensors in classrooms with no level control, and no automatic control in corridors or larger spaces (i.e. library, etc.) / Occupancy sensors are starting to fail / recommend replacing occupancy sensors, either holistically, or on a maintenance cycle. Provide new automatic control for corridors and larger spaces, as well as exterior lighting in central system.		\$29,500
Energy Efficiency	Replace transformers and occupancy sensors. Add central automatic lighting control for corridors, larger spaces and corridors. Add dimming in instructional areas for Add daylight harvesting if holistically replacing light fixtures and/or ballasts.	\$73,750	\$25,000
Other			
Part 6 - Code Implications / Accessibility			
ADA parking spaces	two additional curb cuts are needed.		\$2,000
Direct accessible route	No Issues.		
Interior Route	Some of the water fountains project too far into the corridor; Provide a guard at floor level.		\$3,600
Stairs	Additional signage required.		
Toilet Rooms	No required vertical Grab bars		
Exits	Good condition - No work needed.		
Other	Classroom Sinks are not accessible; Provide one accessible sink in each room.		\$34,000
	Transaction counter at the Library not accessible; adjust a portion of the counter to the correct height.		\$2,000
Automatic Door openers	These are not required by the by codes. \$20,000 per unit x 2 Units.	\$40,000	
Part 7 - Hazardous Materials - Architect not qualified to evaluate and is only reporting suspicions			
Mold		TDB	
Asbestos		TDB	
Total Budgeted Cost			\$1,336,900
Notes:	1 Improvements to systems noted above do not include any changes to the layout of rooms.		