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## Town of Williamsburg, MA

Helen E. James School & Town Office Building Repurposing Study

June 19, 2015

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## I. Scope and Intent of Repurposing Study

### Repurposing Study

The Repurposing Committee for the Town of Williamsburg has requested that Strategic Building Solutions d/b/a Colliers International (Colliers) evaluate the physical condition of the Town Office Building in Haydenville and the Helen E. James School Building in Williamsburg to assist in the determination of possible future uses of these properties by the Town of Williamsburg. Within this effort Colliers is providing area of magnitude project budgets to implement the identified improvements. This effort included the following:

- *Review of existing building documentation*
- *Visual inspection of accessible major building components to determine existing condition and repair needs, including:*
  - *Exterior Envelope – roof, exterior walls, windows, doors, and other structural components*
  - *HVAC systems – boilers, chillers, cooling towers, air handling units, fans, perimeter radiation, VAVs, controls, and other heating, ventilation, and cooling components*
  - *Electrical systems – electrical service, switchgear, and representative panels, wiring, lighting, outlets, and emergency generator*
  - *Plumbing systems – water service, domestic water heaters, domestic water piping, sanitary and waste piping, and toilet room fixtures*
  - *Safety & Regulatory Compliance – fire alarm system, sprinkler system, exit signs, emergency lighting, fire separation, and emergency egress*
  - *Accessibility – needs associated with the Americans with Disabilities Act including building access, building circulation, elevators, and restrooms*
- *Development of an estimate for each identified issue*
- *Development of recommended total project budgets including identified improvement issues and renovations in planning for modernization for the current use or renovations for a new building use.*

SBS professionals toured the building with assistance provided by Charlene Nardi, Town Administrator, in late May 2015 with the purpose of visually surveying the major architectural and mechanical and electrical systems to evaluate the conditions and identify the costs of any major systems repairs. It should be noted that information in this report is based solely on the visual survey of available areas and systems or from information provided through discussions with the above personnel and did not include any testing or in depth analysis of any kind including but not limited to structural, hazardous materials, or MEP (mechanical, electrical, plumbing) systems. The findings are based solely on preliminary professional opinion of conditions gained through experience in renovating and repairing similar commercial/institutional buildings. Given the very preliminary and limited survey of the building, these findings may prove to be incomplete or inaccurate with more extensive study and testing that is typically required in any major building improvement program.

Since the purpose of this study is to lend assistance to the Town in determining the future of these two properties and not to draw definitive conclusions, this study offers 3 improvement options for each property as follows:

- **OPTION 1:** The first option is to provide repairs only to the facility. In the case of the Town Office Building, repairs are identified anticipating that the current use of the building and its configuration remain the same. Only those improvements to repair the building for its current use are identified. In the case of the James School Building, the former use as a school occupancy is no longer valid so repairs for that use are also no longer valid. Therefore this

study identifies improvements/repairs of the features that are likely to remain unchanged in a change of occupancy mostly focused on the exterior envelope of the building.

- **OPTION 2:** The second option assumes a renovation of the building with limited or minimal reconfiguration of the interior spaces. This option would also include all the improvements/repairs identified in option 1 and would assume that all finishes and mechanical, electrical, and plumbing systems would be modernized. In this scenario it is assumed that the site would also receive minimal re-design but would include repair of existing site features.
- **OPTION 3:** The third option assumes that the building would receive a major reconfiguration of interior spaces and would most closely resemble what is considered a “gut renovation” in the construction industry. Therefore this option includes all the improvements/repairs identified in options 1 and 2 as well anticipates reorganizing and redesign of the interior spaces to better accommodate the new occupancy of the building. In the case of the Helen E. James School this option includes significant site improvements to support the new building use.

These options are meant to provide insight into the needs and conditions of the properties as well as the relative investments required to achieve each of the options for each property. The actual project costs may vary significantly depending upon the specific scope and designs for the properties; however the listed costs are meant to simply provide relative area of magnitude costs for consideration and planning purposes.

## II. Summary of Findings

### Town Office Building

The historic Town Office Building is an icon in Haydenville and currently provides office space for the Town's Administrators, Boards, and Charity Organizations. In this capacity the building currently is in need of several physical repairs/improvements. The most significant issues include the need for a building fire protection sprinkler system, replacement of exterior windows, additional toilet rooms, installation of new HVAC system, electrical upgrades, and foundation waterproofing. The details of these issues are as listed on Exhibit 1 following the Town Office Building section of this report.

The recommended total project budgets for each of the improvement options for the Town Office Building can be found on Exhibit 2 following the Town Office Building section of this report and are summarized as follows:

<u>Option</u>	<u>Description</u>	<u>Construction Budget</u>	<u>Project Budget</u>
1	Repairs only, no reconfigurations	\$1,099,500	\$1,462,700
2	Entire renovation, no reconfigurations	\$1,576,900	\$2,197,400
3	Gut renovation w/ reconfigurations	\$2,241,200	\$3,163,400

### Helen E. James School Building

The Helen E. James School property consists of an historic building on a relatively large lot considering its location in the heart of the Town of Williamsburg. This is a well-proportioned building with attractive facades and interior elements. The building is now vacant with its former use being an elementary school. It has several modernizations including elevator, ADA compliant toilet rooms, and satisfies many current building requirements. Since the building will not be re-used as a school and the intended use has not been determined, it is difficult to anticipate specific interior improvements. Therefore this report focuses specific detail on needs of those features that are not likely to change dramatically in any building re-use such as maintaining the exterior envelope.

The most significant needs to repair the exterior include masonry walls, fascia, and openings. The masonry exterior walls have significant need for refurbishment. Many open joints exist in the brick requiring repointing. Selective pre-cast concrete lintels and sills are deteriorated requiring replacements. The ornate metal coping is also in need of repair and re-painting. The roofing appears intact and serviceable although its age is undetermined. The entire roof is drained by three relatively small roof drains that clog without constant maintenance. Additional roof drainage should be considered in a renovation. Exterior windows are single glazed and in need of replacement to meet energy code in a renovation. The details of these issues are as listed on Exhibit 3 following the Helen E. James section of this report.

The recommended total project budgets for each of the improvement options for the Helen E. James Building can be found on Exhibit 4 following the Helen E. James School Building section of this report and are summarized as follows:

<u>Option</u>	<u>Description</u>	<u>Construction Budget</u>	<u>Project Budget</u>
1	Exterior Repairs only	\$1,013,000	\$1,355,200
2	Renovation w/ minimal reconfigurations	\$2,858,900	\$3,876,800
3	Gut renovation major reconfigurations	\$4,489,100	\$6,370,000

### III. Town Office Building

#### General Building Description

The Town Office Building is a historic wood frame 2 story plus basement building built in 1860. A small addition was constructed on the north of the building in 2002 to add an elevator with access from the parking lot. Much of the interior is reminiscent of its original purpose as a school as is evident by several classroom size spaces and a 2<sup>nd</sup> floor multipurpose auditorium with wood floor and raised stage. The single user multi-gender ADA accessible toilet room on the 1<sup>st</sup> floor is a recent adaptation that is only one of two toilet rooms in the building. The second toilet room is a very small single occupant room off the auditorium. There remains evidence of the original toilet rooms for the building in the basement that have long been abandoned. Although there is a full basement, the floor to ceiling height is only 6'-6" which is lower than is allowed by code for occupied space. With that limitation the basement can only accommodate unoccupied functions such as mechanicals and storage. Therefore only two thirds of the gross floor square footage of approximately 13,600 sf can be occupied. Much of the occupied floor area consists of circulation space including stairs, corridors, and elevator in its current configuration. The exterior of the building retains much of its historic character with wood siding, large windows, and historic trim features. Details of identified building needs are shown on Exhibit 1 and are described below by major building system.



Town offices exterior sign



View of front across Route 9

#### Exterior Building Envelope

As with all wood exteriors, the clapboard, flush tongue and groove siding, as well as historic wood trim requires significant maintenance to ensure long life. Although the wood exterior of the building is in generally good condition, some areas require repair and repainting such as the south entrance canopy. The windows are generally large double hung wood sash with single glazing with storm windows. The windows are energy inefficient and need replacement. The roof and chimney have been recently repaired and replaced therefore in good condition although there are a couple missing asphalt shingles that require minor repair. Some exterior doors are in need of replacement such as those on the northwest corner and the basement stair in the bulkhead.



Damaged canopy at South entrance



Southeast corner elevations



Damage at Northwest corner



Missing asphalt shingle



Water intrusion in evidence storm



Stair and door to bulkhead

## Interior Space and Finishes

The interior finishes of the 1<sup>st</sup> and 2<sup>nd</sup> floors are generally in fair condition and serviceable. A variety of floor finishes generally of carpet or vinyl exists throughout. The auditorium has a wood floor that is also in fair condition. Walls that are original to the building are generally plaster while newer partitions are wall board and are also in good condition. Ceilings generally consist of plaster or suspended acoustical ceiling tile. All are in serviceable condition. Generally interior finishes are in fair condition although some updating or refreshing could be desired in some locations.



Planning Bd room



Auditorium to stage



Senior center cafe



Partial ht ptns in collector's office

## Code Issues

The building lacks many features and requirements of modern day building, fire, and handicap accessibility codes. However many of the modern code requirements are not mandated for existing buildings that retain their existing building occupancy and are not undergoing renovations. Therefore the requirements to repair the building in its current configuration and use are less than those that will be required in renovation scenarios. However it is prudent to meet the current code and standards as much as is practical and required by the local building and fire officials even in the repair only scenario.

The most significant fire and safety improvement that should be undertaken is the installation of a fire sprinkler system in the entire building including attic. Installation of the sprinkler system will alleviate or reduce many other code related issues in the building. Installation of a sprinkler system will also require a new water service to the building.

The separation of the basement from the upper floors should also be considered. Fire separations at connections to the basement in the stairways prevent the spread of fire and smoke from the storage

and mechanical spaces of the basement. Also devices blocking paths to the basement in the stairwells prevents anyone from mistakenly exiting down to the basement in an emergency. All stairs such as the exterior stair at the west and the stair to the auditorium stage must have handrails and any guardrails need to be 42 inches in height.

Although the elevator addition was constructed allowing wheelchair access from the parking lot to the floors of the building, ADA also requires actions to be taken that are readily achievable such as signage and door hardware upgrades. Although the ADA compliant multi-gender toilet room was added on the first floor, the building lacks the total number of toilet fixtures required for the building.



Attic framing



Water service in evidence storm



West stair from basement



South exterior door of West stair



Stairs to stage



Collapsing plaster ceiling in boiler room

### Heating, Ventilation & Air Conditioning

Heat is provided for the Town Hall by an oil fired cast iron sectional low pressure steam boiler. The boiler is manufactured by HB Smith and is 223 MBH in capacity. The boiler is in fair condition and the burner and some burner components have been replaced within the past ten years. There are four 275 gallon oil tanks that provide #2 light oil for the boiler. The oil tanks are old and are in fair to poor condition and will require replacement in the near future. A floor dam should be constructed around the oil tanks to prevent any oil spill from entering the sewer system. Heat is distributed throughout the building by an old two pipe steam system which is difficult to control. Heating and ventilation air for the larger spaces is provided by six old unit ventilators. Other spaces are provided heat by two pipe steam radiators. The spaces served by unit ventilators have exhaust/relief air that is exhausted by gravity connected to exhaust shafts that exhaust through rooftop chimneys. A large shaft opening in each larger space provides exhaust/relief and a manual damper exists in these rooms to vary the exhaust/relief air going into the relief/exhaust shaft. The exhaust shaft ductwork is disconnected from the rooftop cupola in the attic therefore reducing ventilation effectiveness. The bathroom exhaust is provided by local ceiling mounted exhaust fans. All controls are local and there is no centralized

building automation system. The building is cooled by window A/C units and does not have a central air conditioning system. The basement is generally uninhabited. There is a police records storage room in the basement that is unconditioned. The stone foundation in the basement has created a very damp environment and an attempt to de-humidify the basement through the installation of a dehumidifier appears to be unsuccessful since the files located within the police record storage are deteriorating and mold has begun to grow. Overall the HVAC system is in poor condition, the heating works poorly creating uneven temperature conditions and the HVAC system will require replacement to meet current ventilation and fire codes and improve occupant comfort.



Hot Water Boiler



Unit Ventilator



Steam Radiator



Oil Tanks



Ventilation Chimney



Basement De-humidifier

## Electrical

Main electric is provided by an overhead electric service from an electric pole on Main Street and enters the east side of the building. The main electric service is a 400 amp main three phase 120/208 volt and is located in the basement on the east wall. The main electric service, distribution panels and sub-panels are new and in excellent condition. The main distribution panel serves subpanels feeding the basement, first and second floor panels. While the electric service, main panels and feeders are new, there is old branch circuitry wiring throughout the building that serves lighting and electrical outlets. The general offices spaces have limited quantities of electrical outlets and an electrical upgrade of the branch circuit wiring will likely be required depending upon the future usage of the building. A 14 kW propane gas generator was installed in 20012/13 and serves limited life safety loads within the building.

Lighting throughout the building is a mixutre of incandescent, LED retrofits, compact flourescents and flourescents. The condition of the lighting fixtures vary from good to poor. The exit signs are compact flourescent.



Main Electric Panels



Electric Panel



Emergency Generator



Propane for Generator

### Plumbing and Fire Protection

Although the toilet plumbing fixtures appear to be in fair to good condition, there exists only two single person toilet rooms in the building. The toilet room on the first floor is ADA compliant and services both genders. The toilet room on the second floor is also for both genders and is very small and not ADA compliant. Given the size of the building and its public occupancy the existing toilet fixture counts are inadequate and therefore additional toilet rooms need to be provided.

A  $\frac{3}{4}$  inch water service enters the front of the building from Main Street. The water piping is copper and appears to be in fair condition. The building sanitary piping is a combination of PVC and ABS plastic piping above grade and appears to be in good condition. A six inch PVC sanitary line exits the building from the northwest corner near the boiler pit. Domestic hot water is provided by a Rheem electric hot water heater with 80 gallons of storage. The domestic hot water heater is relatively new and in good condition.

The building does not have an automatic sprinkler system or a fire protection standpipe. A new water and fire protection service will be required depending upon the future use of the building given the small size of the water service and lack of a water based fire protection system.

The building has a relatively new Honeywell Notifier AFP-200 W/CBC addressable fire alarm system. Communication cabling enters the southwest corner of the building from a pole on Main Street. The tele/data system appears to be adequate for the current use.



Water Service



New Dishwasher



Lavatory



Hot Water Heater



Sanitary Pipe



Water Closet

### Elevator

The elevator is manufactured by ThyssenKrupp, is hydraulically operated and was installed in 2003. The mechanical equipment and cab appear to be in excellent condition and the elevator is ADA accessible.



Hydraulic Elevator

<u>Item #</u>	<u>Building System</u>	<u>Description</u>	<u>Approximate Cost</u>
1	Code	Provide fire separation from basement to West Stair	\$ 10,000
2	Code	Install sprinkler system throughout including attic	\$ 88,000
3	Code	Repair plaster ceiling in boiler room to maintain fire rating	\$ 3,000
4	Code	Provide ADA approved door hardware & signage throughout	\$ 7,500
5	Code	Modify stair railings throughout to meet Code & ADA	not included
6	Code	Provide HC lift at auditorium stage	not included
7	Code	Add handrails to stair at auditorium stage	\$ 3,000
8	Code	Add panic hardware to exit door from auditorium to northwest stair	\$ 1,000
9	Code	Add railings to exterior stair on west elevation	\$ 7,000
10	Code	Provide additional toilet rooms for men and women	\$ 30,000
11	Code	Install anti-wind devices at first floor level of south and west stair to prevent exiting to basement	\$ 7,000
12	Code	Construct floor dam around oil tanks to prevent spill into sewers	\$ 5,000
13	Electrical	Install additional electrical outlets and replace selected lighting	\$ 28,000
14	Electrical	Upgrade/expand tel/data systems	not included
15	Exterior	Replace and/or repair exterior doors	\$ 10,000
16	Exterior	Repair foundation, rain leader, and exterior hose bib to prevent water intrusion in basement evidence room	\$ 6,000
17	Exterior	Replace all exterior windows	\$ 238,000
18	Exterior	Repair exterior masonry foundation at northwest corner	\$ 2,000
19	Exterior	Repair front wood entrance canopy & misc. wood siding & trim and repaint	\$ 25,000
20	Exterior	Repair asphalt shingle roof	\$ 1,000
21	Exterior	Excavate, waterproof foundation, and re-grade to prevent water intrusion through stone foundation walls.	\$ 40,000
22	HVAC	Install new HVAC system throughout and remove old system	\$ 544,000
23	Interior	Upgrade misc. interior finishes	\$ 25,000
24	Site	Install new water service	\$ 15,000
25	Site	Trim large tree at southwest corner to prevent building damage & repair site perimeter fence	\$ 4,000
<b>Total Repair Needs</b>			<b>\$ 1,099,500</b>

**Town of Williamsburg**

Town Office Building

Total Project Budget

June 19, 2015

Exhibit 2

		Repairs Only	Minimal Renovation / Reconfigurations	Major Renovation / Reconfigurations
	\$(000) except \$/GSF			
New Construction GSF		NA	NA	NA
Renovation GSF		13,608	13,608	13,608
<b>Total GSF</b>		13,608	13,608	13,608
New Construction \$/GSF		NA	NA	NA
Renovation \$/GSF		\$ 80.80	\$ 110.00	\$ 150.00
Total Construction w/ site \$/GSF		\$ 80.80	\$ 115.88	\$ 164.70
<b>Total Project \$/GSF</b>		\$ 107.48	\$ 161.48	\$ 232.47
<b>I. Building Construction</b>				
A.	New Building Construction	NA	NA	NA
B.	Existing Building Renovations	\$ 1,099.5	\$ 1,496.9	\$ 2,041.2
	<b>Total Building Construction</b>	1,099.5	1,496.9	2,041.2
<b>II. Related Construction</b>				
A.	Sitework	w/ building	25.0	100.0
B.	Site Utility Systems	w/ building	25.0	50.0
C.	Hazardous Materials	not included	30.0	50.0
	<b>Total Related Construction</b>	-	80.0	200.0
	<b>Total Construction</b>	\$ 1,099.5	\$ 1,576.9	\$ 2,241.2
<b>III. Furniture, Fixtures &amp; Equipment (FF&amp;E)</b>				
A.	Loose Furnishings		not included	not included
B.	Program Related Equipment		not included	not included
C.	Data Equipment		not included	not included
D.	Telecommunications Equipment		not included	not included
E.	Audio/Visual Equipment		30.0	50.0
	<b>Total FF &amp; E</b>	not included	30.0	50.0
<b>IV. Fees and Expenses</b>				
A.	Fees			
1	Existing Conditions & Space Program	NA	w/ architect	w/ architect
2	Architect	110.0	# 157.7	224.1
3	Special Consultants			
a	Haz. Mat. Consultant	10.0	20.0	30.0
4	Project Management	70.0	# 115.0	170.0
5	Building Commissioning	NA	# 7.5	10.2
6	Owner's Cost Estimator	not included	5.0	10.0
7	Owner's Legal Fees	NA	not included	not included
8	Site Survey	NA	not included	8.0
	Sub-total Fees	190.0	305.2	452.3
B.	Expenses			
1	Owner's Insurance	1.6	# 2.4	3.4
2	Permits	not included	not included	not included
3	Printing	1.0	4.0	6.0
4	Construction Utilities Use	NA	w/ construction	w/ construction
5	Site Borings	NA	NA	NA
6	Materials Testing	NA	# NA	NA
7	Special Inspections	NA	NA	10.0
8	Consultant Reimbursables	3.0	# 27.3	39.4
9	Moving/Relocation	not included	not included	not included
10	Physical Plant Expenses	not included	not included	not included
11	Misc. Expenses	5.0	10.0	15.0
12	Advertising	not included	1.0	1.0
13	Temporary Space/Operations	not included	not included	not included
14	Financing Costs/Bond Origination	not included	not included	not included
	Sub-total Expenses	10.6	44.7	74.8
	<b>Total Fees and Expenses</b>	200.6	349.9	527.1
<b>V. Contingency</b>				
A.	Construction	55.0	# 78.8	112.1
B.	Owner's Project	65.0	# 97.8	140.9
	<b>Total Contingency</b>	120.0	176.6	253.0
<b>VI. Inflation - 2016 Construction (1yr)</b>				
		42.6	# 64.0	92.1
	<b>Total Project</b>	\$ 1,462.7	\$ 2,197.4	\$ 3,163.4

## IV. Helen E. James School Building

### General Building Description

The Helen E. James School Building is a handsome and prominent traditional 3 story (ground, 1st & 2nd floors) wood frame building with masonry exterior bearing walls consisting of approximately 22,449 gross square feet of floor area. The original building was constructed in 1914 and a building addition to include the elevator and new exit stair was constructed on the south in 1986. This addition allowed one of the two original building entrances and exit stairs to be eliminated and the former stair enclosure was converted to rooms on the 1st and 2nd floors of the original building. The building has been vacant since mid-2014 however the Town has continued to heat the building throughout the cold seasons. By maintaining the heat in the building the integrity of the interior has been maintained and the building remains much as it was when the school vacated.

The building's location at 16 Main Street is in the center of Williamsburg and given its location and 2.9 acre site is a very desirable property. The site includes the building, front circle drive and entrance plaza, parking lot for approximately 16 vehicles and a large open lawn space with play scape. Due to its former use as a school, it is likely the building occupancy will need to change therefore any significant renovations will likely require the building to be improved to meet most if not all current building and accessibility codes and standards. Since the new use of the building is difficult to predict, the specifics of the renovation requirements cannot be determined. However the conditions of the exterior are more easily determined. Therefore this report will focus on the specifics of the exterior issues while leaving the details of the interior and site configurations and design to be determined in the renovation options for re-use of the building. Details of identified building needs are shown on Exhibit 3 and are described below by major building system.



Northwest elevations from street



View of North elevations



View from street at pedestrian entrance



Roof view of building entrance area



Roof view of parking area



Roof view of playground

## Exterior Building Envelope

The exterior of the building although attractive in appearance is in significant need of repair and upgrade. In particular the masonry exterior of the building has many open mortar joints in the face brick and a number of the pre-cast concrete lintels, sills and water table pieces are spalled or cracked requiring replacement. The exterior wood sash windows are single glazed, in poor condition, are energy inefficient and need replacement. The metal coping high at the perimeter of the original building is rusted, peeling, and has holes in it in some locations. This metal coping needs repair, appropriate prep and re-painting. Exterior doors have either single pane glazing or are in poor condition and should be replaced along with the windows to match.



Deteriorated precast sill East elevation



Open masonry joints East elevation



Damaged precast lintel East of new addition



Open masonry joints east elevation



Broken window East elevation



Rotten wood window at new addition



Classroom 1 windows



Efflorescence under windows in preschool room



Rusted metal cornice



Peeling metal cornice on West

## Interior Space and Finishes

Although much of the interior finishes are in decent condition, a renovation of any kind would likely require new wall, ceiling, and floor finishes throughout. Since the new building use and layout are not available it is not possible to specifically identify the extent and type of finishes. The toilet rooms which have been modernized on each floor are in generally good condition although some fixtures are missing and some have water stained ceiling tile presumably from water leaking from toilet rooms above. Generally however these toilet rooms are serviceable once these specific issues are addressed.

The vacated classrooms are large and contain attractive wood trim and closet doors. Likewise the corridor doors, original stairwell enclosures, and original stair railings are attractive wood features that may want to be retained in the renovations even though some modifications will likely be required for ADA and code compliance.



Classroom 1



Classroom 2 peeling paint at window



Classroom 2 sink and doors



Ground floor corridor



Pre-school classroom



Men's room stained ceiling



Southwest computer classroom



Men's room

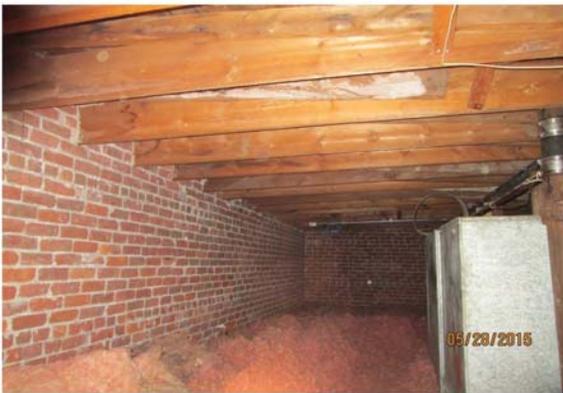


Men's room stained ceiling fixtures removed

## Code Issues

The building renovations will need to address any issues required to meet current building codes. The installation of a fire sprinkler system will likely be the most significant improvement necessary. Any new work in a renovation will need to meet ADA requirements. Such aspects as new door hardware, fire alarm, signage, and accessible features such as cabinets will need to be appropriately designed for accessibility. One condition that currently exists on the upper floors is that the path of exit travel in the corridors is too narrow in some cases when the classroom doors are open. This condition is likely to be easily resolved in the renovations. Since the existing toilet rooms are all ADA compliant, there exists the possibility of reusing them if the locations work with the new building occupancy. The existing stair locations are also conducive to reuse with at least two means of egress.

Since the building addition included a new elevator, all floor areas of the building are wheelchair accessible. The hydraulic elevator, manufactured by Dover, was installed in 1986. The elevator has a 2,500 lb capacity and has 4 landings (3 in front and one in rear). The mechanical equipment and cab appear to be in good condition and is ADA accessible. The elevator controller may require upgrading in the future renovation.



Attic framing and insulation



Second floor corridor with doors open



Step at door to pre-school room



Hydraulic Elevator



Elevator Cab



Elevator Controls



Sump in Elevator MER

### Heating, Ventilation & Air Conditioning

Heat is provided for the school by three oil fired modular hot water boilers. The boilers are manufactured by Hydortherm and are 909 MBH in capacity each. The boilers are over 25 years old, in fair condition and are controlled locally by a Johnson Controls electronic controller that start/stops the boiler and resets heating hot water temperature with outside air temperature. There are four 275 gallon oil tanks that provide #2 light oil for the boilers. The oil tanks are old but in fair condition and require an oil dam to prevent spilled oil from reaching a sump pump. Heating hot water is distributed throughout the building by a small centrifugal pump. Heating and ventilation air for the classrooms is provided by unit ventilators through the outside walls. Other spaces are provided heat by finned tube radiation. The unit ventilators and finned tube radiation are controlled by local electric thermostats and electric hot water heating valves. The classroom exhaust/relief air is ventilated by a combination of gravity and mechanical exhaust fans connected to exhaust shafts that exhaust through rooftop chimneys. A large shaft opening in each classroom provides exhaust/relief and manual damper exists in each classroom to vary the exhaust/relief air going into the relief/exhaust shaft. The bathroom exhaust is from centralized roof mounted exhaust fans. All controls are local and there is no centralized building automation system. The building is not air conditioned. The HVAC system is beyond its life expectancy, is in fair to poor condition, and will require replacement to meet current ventilation and fire codes and the future building needs.



Hot Water Boilers



Exhaust Fans



Finned Tube Radiation



Oil Tanks



Unit Ventilator

## Electrical

Main electric is provided by an overhead electric service from an electric pole on Main Street and enters the building in the front on the northeast corner. The electric service is 400 amp three phase 120/208 volt. The main electrical equipment is located in the boiler room. A 400 amp fused main disconnect feeds the main distribution panel which is a GE 400 amp 120/208 volt 3 phase 4 wire panel. The main distribution panel is older and in poor condition with missing breakers/knockout covers and electrical/duct tape. The individual floors are served by newer GE 125 amp 120/208 3 phase 4 wire panel boards that were possibly installed during the mid-1980's elevator tower addition. There is evidence of old branch circuitry wiring and old abandoned electrical panels that are being used as junction boxes. The classrooms have limited electrical outlets and an electrical upgrade will likely be required to serve the future use of the building.

Lighting throughout the building is fluorescent 4 foot T-8 fixtures with electronic ballasts. There is a combination of pendant style fixtures and 2X4 recessed fixtures in the classrooms and hallways. The exit signs are compact fluorescent. The lighting is generally in good condition with some older lighting fixtures in selected areas. However in a major renovation it is likely all lighting would be replaced along with updated interior finishes.

The rooftop has a small solar photovoltaic (PV) system that was installed within the past few years. The solar PV system appeared to be operational and at the time of the site visit was producing 790 watts of electricity. The solar system has a small weather station and the ability to communicate solar production data remotely. It seems likely this system could be retained in future uses of the building.

The building has a Simplex 4001 fire alarm system that was likely installed in 1986 with the elevator tower addition. The fire alarm system has smoke detectors, some heat detection, audible alarms and pull stations throughout the building. The fire alarm is non-addressable and has a zone per floor and will require a replacement and upgrade depending upon future building use. The building has a Simplex 2350 master time system which is obsolete and no longer manufactured. Communications

cabling enters the building on the southwest corner and is fed from a pole on South Street. The tele/data system is in fair to poor condition and will require upgrading.



Main Fused Disconnect



Floor Electric Panel



Rooftop Solar PV



Main Distribution Panel



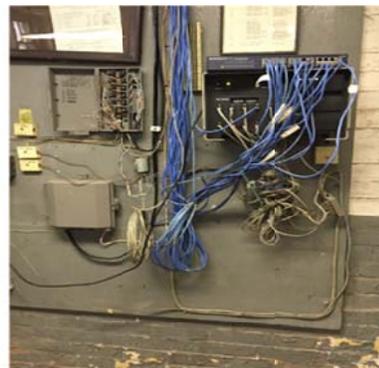
Lighting



Hall Exit Sign & Light



Fire Alarm Panel



Tele/Data Panels



Master Clock

## Plumbing and Fire Protection

The plumbing fixtures appear to be in good condition; however some plumbing fixtures have been removed, presumably for use elsewhere when the school closed. The water service enters the building from South Street and the building is served by a 2 inch water meter. The water piping is copper and appears to be in fair condition. The building sanitary piping system appears to have leaked and been repaired in several locations and will need to be replaced and likely reconfigured depending upon the future usage of the building. Domestic hot water is provided by a Brock oil fired water heater with 50 gallons of storage. The domestic hot water system includes a 3-way mixing valve to temper the water and a re-circulating loop and small circulating pump. The domestic hot water heater is relatively new and in good condition.

The building does NOT have an automatic sprinkler system or a fire protection standpipe. A new water and fire protection service will likely be required for the future use of the building given the small size of the water service and lack of a water based fire protection system.

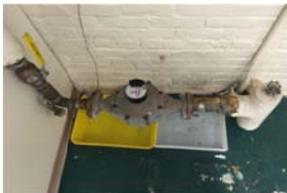
The elevator mechanical equipment room (MER) has a sump pit and sump pump that receives a significant amount of water from a foundation drain. Although currently functional this condition may be revised in a renovation to prevent storm water from entering the building requiring pumping to remove it.



Elevator machine room water pump



Elevator machine room water pump pit



Water Service



Hot Water Heater



Repaired Sanitary Pipe



Lavatories



Water Closet

# Town of Williamsburg

Exhibit 3

## Helen E. James School Building: Repair Needs Matrix

19-Jun-15

<u>Item #</u>	<u>Building System</u>	<u>Description</u>	<u>Approximate Cost</u>
1	Code	Modify former classroom doors to avoid blocking exit pathway	w/ reno
2	Code	Install sprinkler system throughout including attic	w/ reno
3	Code	Provide ADA approved door hardware & signage throughout	w/ reno
4	Code	Modify stair railings throughout to meet Code & ADA	w/ reno
5	Code	Construct floor dam around oil tanks to prevent spill into sewers	\$ 5,000
6	Code	Remove trip hazards at doors from corridor to ground floor classroom	w/ reno
7	Electrical	Install new branch wiring throughout	w/ reno
8	Electrical	Upgrade/expand/install tel/data systems	w/ reno
9	Exterior	Repair & repaint roof appurtances (cupolas, hatches, vents)	\$ 10,000
10	Exterior	Replace exterior windows and doors	\$ 380,000
11	Exterior	Repair, replace, and repoint exterior brick and pre-cast masonry walls as required	\$ 500,000
12	Exterior	Repair/replace ornate metal cornice and repaint including misc. exterior trim	\$ 50,000
13	Exterior	Repoint masonry chimney	\$ 3,000
14	Exterior	Excavate, waterproof foundation, and re-grade to prevent water intrusion through east foundation walls.	\$ 50,000
15	HVAC	Install new HVAC system throughout and remove old system	w/ reno
16	Interior	Upgrade all interior finishes	w/ reno
17	Interior	Reconfigure interior to accommodate new occupancy	w/ reno
18	Plumbing	Replace missing toilet room fixtures	w/ reno
19	Plumbing	Install additional and/or increase size of roof drains	\$ 15,000
20	Site	Install new sanitary plumbing service	w/ reno
21	Site	Install new water service	w/ reno
22	Site	Repair all bituminous walks, drives, and parking lot	w/ reno
<b>Total Repair Needs</b>			<b>\$ 1,013,000</b>

**Town of Williamsburg**  
Helen E. James School Building  
Total Project Budget  
June 19, 2015

Exhibit 4

	Exterior Envelope Repairs Only	Minimal Renovation & Reconfigurations	Major Renovation & Reconfigurations
\$(000) except \$/GSF			
New Construction GSF	NA	NA	NA
Renovation GSF	22,449	22,449	22,449
<b>Total GSF</b>	22,449	22,449	22,449
New Construction \$/GSF	NA	NA	NA
Renovation \$/GSF	\$ 45.12	\$ 120.00	\$ 165.00
Total Construction w/ site \$/GSF	\$ 45.12	\$ 127.35	\$ 199.97
<b>Total Project \$/GSF</b>	\$ 60.37	\$ 172.69	\$ 283.75
<b>I. Building Construction</b>			
A. New Building Construction	NA	NA	NA
B. Existing Building Renovations	\$ 1,013.0	\$ 2,693.9	\$ 3,704.1
<b>Total Building Construction</b>	1,013.0	2,693.9	3,704.1
<b>II. Related Construction</b>			
A. Sitework			
1 Site Prep.	not included	-	30.0
2 Drives, Paths & Plazas	not included	50.0	150.0
3 Parking	not included	50.0	200.0
4 Site Improvements	not included	-	30.0
5 Landscape & Planting	not included	25.0	50.0
6 Building Demolition	not included	NA	NA
7 Playground Area	not included	not included	150.0
8 Wetlands Mitigation	not included	not included	not included
B. Site Utility Systems			
1 Water & Fire Protection Service	not included	40.0	50.0
2 Sanitary Sewer	not included	-	50.0
3 Storm Sewer	not included	-	50.0
4 Electric	not included	-	-
5 Data & Communications	not included	-	-
6 Site Lighting	not included	-	25.0
7 Gas	not included	not included	not included
C. Hazardous Materials	not included	not included	not included
<b>Total Related Construction</b>	-	165.0	785.0
<b>Total Construction</b>	<b>\$ 1,013.0</b>	<b>\$ 2,858.9</b>	<b>\$ 4,489.1</b>
<b>III. Furniture, Fixtures &amp; Equipment (FF&amp;E)</b>			
A. Loose Furnishings	not included	not included	100.0
B. Program Related Equipment	not included	not included	not included
C. Data Equipment	not included	not included	75.0
D. Telecommunications Equipment	not included	not included	25.0
E. Audio/Visual Equipment	not included	not included	50.0
<b>Total FF &amp; E</b>	not included	-	250.0
<b>IV. Fees and Expenses</b>			
A. Fees			
1 Existing Conditions & Space Program	NA	w/ architect	w/ architect
2 Architect	101.3 #	285.9	448.9
3 Special Consultants			
a Haz. Mat. Consultant	10.0	10.0	15.0
4 Project Management	70.0 #	195.0	325.0
5 Building Commissioning	NA #	13.5	18.5
6 Owner's Cost Estimator	not included	7.0	12.0
7 Owner's Legal Fees	NA	10.0	10.0
8 Site Survey	NA	not included	10.0
Sub-total Fees	181.3	521.4	839.4

**Town of Williamsburg**  
Helen E. James School Building  
Total Project Budget  
June 19, 2015

Exhibit 4

		Exterior Envelope Repairs Only	Minimal Renovation & Reconfigurations	Major Renovation & Reconfigurations
		<i>\$(000) except \$/GSF</i>		
B.	Expenses			
1	Owner's Insurance	1.5 #	4.3	6.7
2	Permits	not included	20.0	30.0
3	Printing	1.0	4.0	6.0
4	Construction Utilities Use	NA	w/ construction	w/ construction
5	Site Borings	NA	NA	NA
6	Materials Testing	NA #	10.0	10.0
7	Special Inspections	NA	NA	NA
8	Consultant Reimbursables	3.0 #	20.0	30.0
9	Moving/Relocation	not included	not included	not included
10	Physical Plant Expenses	not included	not included	not included
11	Misc. Expenses	5.0	10.0	15.0
12	Advertising	not included	not included	not included
13	Temporary Space/Operations	not included	not included	not included
14	Financing Costs/Bond Origination	not included	not included	not included
	Sub-total Expenses	10.5	68.3	97.7
	<b>Total Fees and Expenses</b>	<b>191.8</b>	<b>589.7</b>	<b>937.1</b>
V.	<b>Contingency</b>			
A.	Construction	50.7 #	142.9	224.5
B.	Owner's Project	60.2 #	172.4	283.8
	<b>Total Contingency</b>	<b>110.9</b>	<b>315.3</b>	<b>508.3</b>
VI.	<b>Inflation - 2016 Construction (1yr)</b>	<b>39.5 #</b>	<b>112.9</b>	<b>185.5</b>
	<b>Total Project</b>	<b>\$ 1,355.2 #</b>	<b>\$ 3,876.8</b>	<b>\$ 6,370.0</b>